National Institute for Health and Care Excellence

Draft for consultation

Overweight and obesity management: preventing, assessing and managing overweight and obesity

[l] Evidence review for psychological approaches to address weight stigma in children, young people and adults

NICE guideline CGxx

Evidence reviews underpinning research recommendations in the NICE guideline

October 2023

Draft for Consultation

These evidence reviews were developed by the Guideline Development Team

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1.1 Review question

What is the effectiveness, cost effectiveness and acceptability of psychological approaches to address the counterproductive effect of weight stigma in achieving or maintaining weight loss, or negating the adverse impact of weight stigma, in children, young people and adults?

1.1.1 Introduction

Weight stigma is defined as discriminatory acts and ideologies towards individuals because of their weight and size and can negatively affect people living with overweight and obesity. It has been shown that weight stigma is associated with poor psychological wellbeing, higher levels of depression and anxiety and eating disorders (e.g., emotional and binge eating). Different psychological approaches have been identified to address the effect of weight stigma for people living with overweight and obesity, such as compassion focused therapy, acceptance and commitment therapy or cognitive behavioural therapy.

During the scoping process, committee members highlighted that there is new evidence to support the use of psychological interventions to reduce the impact of weight stigma in people living with overweight and obesity. The main purpose of this review is to investigate the effectiveness, cost effectiveness and acceptability of psychological approaches to address the impact of weight stigma in children, young people and adults.

This review focused on weight stigma (also known as weight self-stigma, internalised weight stigma, weight bias or weight shame) as reported in the review protocol (Table 1). Committee members agreed that other concepts related to weight stigma, such as body image dissatisfaction, were out of scope.

1.1.2 Summary of the protocol

Table 1: PICO table for psychological approaches to address weight stigma in children, young people and adults

PICO Table	

Population	• People aged 18 years and over who are:
	  ○ Overweight (BMI 25 kg/m2 to 29.9 kg/m2) or
	  ○ living with obesity (BMI ≥ 30 kg/m2)
	• Children and young people who have a BMI above the 91st centile (1.34 standard deviations)
	• Parents and carers of children and young people living with overweight and obesity

Intervention	• Psychological interventions that aim to reduce weight stigma such as compassion focused therapy, acceptance commitment therapy or cognitive behavioural therapy where the specific aim is to reduce the adverse impact of weight stigma.

PICO Table	
Comparator	• Standard care • No intervention • Waiting list control • Alternative weight-management intervention that does not have the aim of reducing the adverse impact of weight stigma

Outcomes	• Primary outcomes:
	  ○ Weight loss (achieving or maintaining) at 12 months and for the longest time point reported by the study. Measures including:
	  ▪ Weight loss
	  ▪ BMI reduction
	  ▪ Waist circumference
	  ▪ Waist-to-height ratio
	  ▪ BMI z score in children
	  ○ Stigma (*using the Weight Bias Internalisation Scale (WBIS; Durso and Latner, 2008) or Weight Self-Stigma Questionnaire (WSSQ; Lillis et al 2010 or other validated tool*)
	• Secondary outcomes:
	  ○ Health related quality of life (measured using validated tool)
	  ○ Anxiety and depression (measured using validated tools)
	  ○ Change in eating behaviours (for example, binge eating, night eating, emotional eating)
	  ○ Self-efficacy (measured using validated tool such as the general self-efficacy scale)
	• Qualitative studies:
	The outcomes will be generated using emergent coding, but are expected to include the following:
	  ○ Factors that increase acceptability of psychological approach
	  ○ Factors that reduce acceptability of psychological approach

1.1.3 Methods and process

This evidence review was developed using the methods and process described in Developing NICE guidelines: the manual. Methods specific to this review question are described in the review protocol in appendix A.

Declarations of interest were recorded according to NICE's conflicts of interest policy.

1.1.4 Effectiveness and qualitative evidence

1.1.4.1 Included studies

A systematic search was carried out to identify both quantitative and qualitative evidence on the psychological approaches to address weight stigma in children, young people, and adults, which found 1545 references (see appendix B for the search strategy and appendix C for the study selection process). 283 of these references were identified through the re-run

search that was conducted in April 2023 to find newly published references prior to consultation.

Following title and abstract screening, 62 studies were identified for full text review. From these, 2 SRs were identified and were used to identify 3 primary studies: 2 quantitative studies and 1 qualitative. A further 5 primary quantitative studies were identified from the search. All the included studies covered the adult population; no studies were identified that covered children and young people.

A further breakdown of evidence is provided below.

Quantitative evidence

Overall, we included 7 papers (6 RCTs). Out of the 7 papers, 2 (Lillis 2009, Palmeira 2017a) (Table 3, Table 4) were identified through 2 systematic reviews (Griffiths 2018 and Carter 2021a) (Table 2). Five papers (Braun 2022, Levin 2020, Pearl 2020a, Pearl 2020b, Potts 2020) were identified in the search (Table 6). Two papers (Pearl 2020a and Pearl 2020b) reported the same trial with different follow-up periods (i.e. 26 and 52-week follow-up, respectively). Both SRs evaluated the risk of bias (ROB) of the included papers, which was used to reassess risk of bias using the Cochrane RoB 2.0 tool. For the studies identified through SRs, evidence tables were not constructed but instead reference was added to the original SR.

One study (Potts 2020) was a pilot RCT of an acceptance and commitment therapy (ACT) guided self-help intervention for people living with overweight and obesity and self-reporting weight self-stigma.

The psychological interventions evaluated in the included RCTs were classified as follows:

- Acceptance and commitment therapy (ACT) vs. Waiting list
- Acceptance and commitment therapy (ACT) + Compassion focus therapy (CFT) vs. Treatment as usual
- Adapted therapy (cognitive-behavioural therapy + third wave therapies) vs. Active control
- Mindful self-compassion (MSC) vs Active control

Qualitative evidence

Overall, 1 study (Carter 2021b) was included, which was identified from an SR (Carter 2021a) (Table 3, Table 5). The study was a mixed methods pilot trial which was only used for the qualitative evidence. We excluded the study for the quantitative evidence because it was a single arm trial (i.e. no control arm).

The study was conducted in Australia and the participants were men and women, over the age of 18, self-reporting BMI>30 and expressed a body weight shame score greater or this would require at a minimum a score of somewhat (2) to the 14-item Body Image Shame Scale (BISS). BISS is a five-point Likert scale (0 = never to 4 = almost always), with higher scores indicate a higher body weight shame. At 3 month follow up, the authors conducted a focus group with the 5 participants to qualitatively examine participant's experience with the CFT intervention program. The intervention consisted of 12 session group of 2 hours each, which were held in a private room at the University of Queensland (Australia). The responses provided by the participants in the focus group were analysed using an inductive thematic analysis procedure.

See appendix D for evidence tables and the reference list in section 1.1.13.

1.1.4.2 Excluded studies

See appendix J for the list of excluded studies with reasons for their exclusion.

1.1.5 Summary of studies included in the effectiveness and qualitative evidence

Systematic reviews

Table 1: Summary of the characteristics of the systematic reviews used to identify primary studies

Short title	Population	Interventions and comparators	Relevant outcomes

Griffiths 2018	• 6 studies[1] [Of these, this review included 2 studies that matched our inclusion criteria]
	• The databases were searched from their inception to October 2017
	• Participants were adults (over 18 years old)
		• Intervention: Acceptance and commitment therapy (ACT)[2]
		• Comparators:
		  ○ Waiting list control
		  ○ Usual care
		  ○ No control
			• Weight self-stigma[4]

Carter 2021a	• 25 studies[1] [Of these, our review included 2 studies that matched our inclusion criteria]
	• The databases were searched from their inception to December 2019
	• Participants were adults (over 18 years old)
		• Intervention: Compassion focused therapy (CFT)[3]
		• Comparators:
		  ○ Waitlist control or treatment-as-usual comparison
		  ○ Active control comparison
		  ○ No control
			• Body weight shame[5,6]
			• Health behaviour

[1] The included primary studies are listed in the detailed evidence tables in Appendix D and in Table 3 below.

[2] Acceptance and commitment therapy (ACT) was defined as mindfulness-based intervention (Griffiths 2018). The systematic review (Griffiths 2018) included studies testing an ACT intervention whether individually or in a group, via single or multiple sessions, provided by a clinician or researcher in a hospital, community, or university setting.

[3] Compassion focused therapy (CFT) was defined as "a therapy model developed to specifically target shame and self-criticism" (Carter 2021a).

[4] Weight self-stigma refers to individuals that "internalise this stigma by accepting these beliefs, fearing stigma from others, engaging in self-deviations, and holding weight-related self-stigmatising attitudes" (Griffiths 2018).

[5] Body weight shame refers to "how the person feels inferior or devalued by others because of their body weight. Importantly, shame distinguishes between external and internal sources. External shame is focused on how others view me (e.g., that person thinks I am fat) and internal shame is how the person judges themselves (e.g., I am fat). Both sources of shame significantly impact anxiety and mood" (Carter 2021a).

[6] The systematic review (Carter 2021a) investigated whether compassion-focused interventions can help with the reduction of body weight shame. However, the review also included studies evaluating compassion-based interventions aimed at reducing weight stigma (e.g., Palmeira 2017a).

Primary studies

Table 2: Primary studies included within the systematic reviews that met our inclusion criteria

Systematic review	Relevant primary studies	Components of interventions in the primary studies
Griffiths 2018	Lillis 2009[1]	Acceptance and commitment therapy (ACT)
	Palmeira 2017a[1,2]	Acceptance and commitment therapy (ACT) + Compassion-focused therapy (CFT)
Carter 2021a	Carter 2021b[1,3]	Focus groups at the three-month follow up on the acceptability of a compassion-focused therapy (CFT)
	Palmeira 2017a[1,2]	Acceptance and commitment therapy (ACT) + Compassion-based therapy

[1] These studies were also identified through the search.

[2] Same study included in both SRs.

[3] This study is a mixed methods trial, which was only used for the qualitative evidence.

1 **Table 3: Summary of the characteristics of the primary studies taken from the included systematic reviews for the quantitative evidence**

Author (year)	Country	Sample size	Study design	Setting	Target population	Interventions	Comparators	Relevant outcomes (measure)	Definitions
Lillis 2009	USA[1]	87	RCT (Preliminary testing trial)	University laboratory	Men and women who completed at least 6 months of a weight loss program in the past 2 years	1 day (6 h) group ACT workshop to improve the quality of life of obese people. Focused on obesity stigma, increasing acceptance, mindfulness, and values-based action. Facilitated by experienced ACT facilitator and ACT trained clinical psychologist trainee.	Waiting list control (completed workshop after 3-month follow-up)	• Weight Stigma (Weight Stigma Questionnaire: A 20-item, Likert-type scale designed for the study) • Weight loss (BMI) • Health related QoL (ORWELL 97 Scale) • Anxiety and depression (General Health Questionnaire)	**ACT**: It is "*a third-generation cognitive behavioural approach that uses acceptance and mindfulness processes, and commitment and behaviour change processes to produce psychological flexibility: the ability to defuse from difficult thoughts and accept difficult feelings while persisting in values-based action.*" (Lillis 2009)
Palmeira 2017a	Portugal	73	RCT	Hospital	Overweight or obese women,	ACT and self-compassion 12 session	Treatment as Usual: maintained	• Weight Self-Stigma (Weight	ACT and self-compassion: "Both emphasize that

					aged between 18 and 55 years old, self-reporting weight self-stigma	group intervention designed to reduce weight self-stigma. Facilitator: ACT-trained clinical psychologist and a clinical psychology master student.	medical and nutritional appointments. After the post-intervention assessment, participants in the TAU group were given the possibility to receive the intervention.	self-stigma Questionnaire) • Weight loss (BMI) • Health related QoL (ORWELL 97 Scale) • Anxiety and depression (General Health Questionnaire) • Change in eating behaviours (Three Factor Eating Questionnaire-21R)	mindfulness is crucial to develop cognitive defusion, acceptance and self-compassion abilities." (Palmeira2017a) **Weight stigma***: it "may be internalized reflecting personal experiences of shame, negative self-evaluations as well as perceived discrimination, that have been related to medical noncompliance, avoiding seeking medical care and has been considered a major predictor of poorer outcomes."* (Palmeira 2017a)

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1 **Table 5: Summary of the characteristics of the primary studies taken from the included systematic reviews for the qualitative evidence**

Author (year)	Country	Sample size	Design and type of analysis	Study objectives	Setting	Target population	Intervention and comparator	Relevant outcomes	Definitions
Carter 2021b	Australia	5	Focus group with thematic analysis	To investigate the initial feasibility of CFT as a 12-sessiongroup intervention for the reduction in body weight shame for people living with overweight and obesity	University	Men and women, over the age of 18, self-reporting BMI>30 and expressed a sufficient body weight shame score	**Intervention:** 12*2-hour CFT sessions held in a group format, consisting of a workbook, activities, psychoeducation, and compassionate imagery techniques. Facilitated by a CFT trained clinical psychologist and a provisionally registered psychologist. **Control:** No control	Acceptability	**CFT**: "*The aim of CFT is to shift individuals from relying on competitive social rank motivational systems and cultivate compassionate motivations to help reduce shame and self-criticism and improve wellbeing."* (Carter 2021b)

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Table 6: Summary of the characteristics of the primary studies identified with the search strategies

Author (year)	Country	Sample size	Study design	Setting	Target population	Interventions	Comparators	Relevant outcomes	Definitions
Braun 2022	USA	28	RCT (Pilot)	Participants' home	Women aged 18-65 years, with a BMI between 40 and 55 kg/m^2 and elevated Internalised weight stigma (determined by a score of ≥3 on the Weight Bias Internalisation Scale (WBIS))	Before starting the intervention, participants took part in a 4 month lifestyle modification intervention that as modelled after the Look AHEAD trial. Mindful self-compassion intervention (MSC) was a 8 week programme and was a once-weekly protocol. MSC was delivered in an adapted format comprising of eight, 2 hour sessions focused on guided meditations and reflections, psychoeducation, experiential exercises, group	Before starting the intervention, participants took part in a 4 month lifestyle modification intervention that as modelled after the Look AHEAD trial. Participants then received 8 weeks of nutrition and cooking classes. Topics included nutrition (e.g., fruits and vegetables, grains, fluids, antioxidants, protein,	• Weight Stigma (1. Weight Self-Stigma Questionnaire; 2. Weight Bias Internalization Scale) • Weight loss (kg)	**Mindful self-compassion intervention (MSC):** Intervention designed to increase affect regulation and self-compassion skills and improve psychological well-being. Session themes included Discovering Mindful Self-Compassion, Practicing Mindfulness, Practicing Loving-Kindness, Discovering Your Compassionate Voice, Living Deeply, Meeting Difficult Emotions, Exploring Challenging Relationships, and Embracing Your Life.

						discussion, and recommended daily home practice meditations.	sodium), culinary education (e.g., setting up a cooking workstation, safe food handling, knife skills, healthy dessert preparation), and healthy recipes.		
Levin 2020	USA	79	RCT	Participants' home	Men and women, 18 years or older, self-reporting BMI≥25 with regular access to internet	ACT intervention over 8 weeks, consisting of weekly modules and coaching calls. Phone calls were provided by a doctoral student in clinical/counselling psychology.	Waiting list	• Weight Self-Stigma (Weight Self-Stigma Questionnaire) • Weight loss (Self-reported weight) • Change in eating behaviours (Three Factor Eating Questionnaire)	**ACT**: it "*is a modern cognitive behaviour therapy (CBT) that aims to reduce maladaptive behaviour regulatory effects of cognition, affect, and other internal experiences (i.e., psychological inflexibility) through acceptance and mindfulness-based methods, while increasing adaptive motivators for behaviour through values-based*

									methods". (Levin 2020)
Pearl 2020a, Pearl 2020b[1]	USA	72	RCT	Academic weight management centre	Men and women, 18 years or older, with obesity (BMI ≥ 30 kg/m2) who had experienced weight stigma and reported high levels of internalised weight stigma	Behavioural Weight Loss (BWL)+ Weight Bias Internalization and Stigma Program (BIAS); weekly group meetings for 12 weeks, followed by 2 bi-weekly and 2 monthly meetings (26 weeks total). Facilitated by a psychologist or registered dietitian.	Behavioural Weight Loss (BWL); weekly group meetings for 12 weeks, followed by 2 bi-weekly and 2 monthly meetings (26 weeks total)	• Weight Stigma (1. Weight Self-Stigma Questionnaire; 2. Weight Bias Internalization Scale) • Percent weight change (reported as weight loss in the paper)) • Health related QoL (Impact of Weight on Quality-of-Life Questionnaire-Lite) • Anxiety and depression (1. Patient Health Questionnaire (PHQ-9); 2. Generalized Anxiety	**Weight stigma**: "*Weight bias internalization (WBI) – also known as weight self-stigma – occurs when individuals with obesity absorb negative, weight-based societal perceptions, including stereotypes, and devalue themselves due to their weight*." (Pearl 2020a) **Stigma reduction intervention content** "*was adapted from cognitive behavioural therapy and "third wave" therapies such as dialectical behaviour therapy and acceptance and commitment*

								Disorder-7 questionnaire) • Change in eating behaviours (Eating Inventory Questionnaire) • Self-efficacy (1. Weight and Lifestyle Efficacy-Short Form; 2. Self-Efficacy for Exercise Scale)	*therapy*." (Pearl 2020a)
Potts 2020	USA	55	RCT (Pilot)	Participants' home	Men and women, between 18 and 64 years old, self-reporting weight self-stigma with a BMI≥27.5	1. ACT guided self-help book plus email prompts only (GSH-E) 2. ACT guided self-help book plus phone coaching (GSH-P)	Waiting list	• Weight Self-Stigma (Weight Self-Stigma Questionnaire) • Weight loss (BMI) • Change in eating behaviours (1. Dutch Eating Behaviour	**ACT**: It "*is designed to reduce psychological inflexibility, a transdiagnostic pathological process in which behaviour is rigidly guided by internal experiences (e.g., cognitions, affect, cravings), or attempts to avoid internal experiences, rather than values or*

									Questionnaire–Emotional Eating; 2. Eating Disorder Examination Questionnaire-Binge Eating Episodes)	*direct contingencies*." (Potts 2020)

[1] Pearl 2020b was the follow up study of Pearl 2020a

See appendix D for full evidence tables.

1.1.6 Summary of the effectiveness and qualitative evidence

Summary of the quantitative evidence

Acceptance and commitment therapy (ACT) vs. Waiting list

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		ACT	Waiting list			
Weight stigma (Better indicated by lower values) at ≤12 month follow up						
3[(a)]	RCT	116	102	MD -0.72 (-0.96 to -0.47)	VERY LOW	**Favours ACT intervention**
BMI (Better indicated by lower values) at ≤12 month follow up						
2[(b)]	RCT	77	62	MD -0.62 (-1.03 to -0.22)	MODERATE	**Favours ACT intervention**
Self-reported weight (in pounds) (Better indicated by lower values) at ≤12 month follow up						
1[(c)]	RCT	39	40	MD -3.78 (-20.82 to 13.26)	VERY LOW	Evidence could not differentiate between arms
Anxiety and depression (Better indicated by lower values) at ≤12 month follow up						

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		ACT	Waiting list			
1[d]	RCT	40	44	MD -4.7 (-7.2 to -2.2)	LOW	**Favours ACT intervention**
Change in eating behaviours – Binge eating (Better indicated by lower values) at ≤12 month follow up						
2[e]	RCT	76	58	MD -0.38 (-0.73 to -0.03)	VERY LOW	**Favours ACT intervention**
Change in eating behaviours – Emotional eating (Better indicated by lower values) at ≤12 month follow up						
2[e]	RCT	76	58	MD -0.47 (-0.81 to -0.13)	VERY LOW	**Favours ACT intervention**
Health related quality of life (Better indicated by lower values) at ≤12 month follow up						
1[d]	RCT	40	44	MD -23.11 (-31.7 to -14.52)	MODERATE	**Favours ACT intervention**

[a] Levin 2020 (follow-up duration: 2 months), Lillis 2009 (follow-up duration: 3 months) and Potts 2022 (follow-up duration: 2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms.

[b] Lillis 2009 (follow-up duration:3 months) and Potts 2022 (follow-up duration:2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms.

[c] Levin 2020 (follow-up duration: 2 months).

[d] Lillis 2009 (follow-up duration: 3 months).

[e] Levin 2020 (follow-up duration: 2 months), Lillis 2009 (follow-up duration: 3 months) and Potts 2022 (follow-up duration: 2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms.

Acceptance and commitment therapy (ACT) + Compassion focus therapy (CFT) vs. Treatment as usual

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		ACT + CFT	Treatment as usual			
Weight stigma (Better indicated by lower values) at ≤12 month follow up						
1[a]	RCT	36	37	MD -5.08 (-7.68 to -2.48)	MODERATE	**Favours ACT+CFT intervention**
Weight loss (Better indicated by lower values) at ≤12 month follow up						

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		ACT + CFT	Treatment as usual			
1[(a)]	RCT	36	37	MD -0.47 (-0.86 to -0.08)	LOW	**Favours ACT+CFT intervention**
Health related quality of life (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	37	MD -7.91 (-13.1 to -2.72)	LOW	**Favours ACT+CFT intervention**
Anxiety and depression (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	37	MD -8.87 (-13.67 to- 4.07)	LOW	**Favours ACT+CFT intervention**
Change in eating behaviours – Binge eating (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	37	MD -0.23 (-0.38 to -0.08)	LOW	**Favours ACT+CFT intervention**
Change in eating behaviours – Emotional eating (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	37	MD -0.3 (-0.51 to -0.09)	LOW	**Favours ACT+CFT intervention**

[(a)] Palmeira 2017a (follow-up duration: 3 months and half).

1 ***Adapted therapy (cognitive-behavioural therapy + third wave therapies) vs. Active control***

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		Adapted therapy	Active control			
Weight stigma (WSSQ) - Weight self-stigma (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD -2.5 (-3.24 to -1.76)	MODERATE	**Favours adapted therapy intervention**
Weight stigma (WBIS) - Weight bias internalization (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD -0.3 (-0.39 to -0.21)	MODERATE	**Favours adapted therapy intervention**
Percent weight change (reported as weight loss in the paper) (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD 0.9 (0.44 to 1.36)	MODERATE	**Favours control**
Health related quality of life (Better indicated by higher values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD 0.9 (-0.25 to 2.05)	LOW	Evidence could not differentiate between arms
Anxiety and depression – Depression (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD -0.5 (-0.92 to -0.08)	LOW	**Favours adapted therapy intervention**
Anxiety and depression – Anxiety (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD -1.20 (-1.62 to -0.78)	MODERATE	**Favours adapted therapy intervention**
Change in eating behaviours (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD -0.60 (-0.86.to -0.34)	MODERATE	**Favours adapted therapy intervention**
Self-efficacy - Lifestyle (WEL) (Better indicated by higher values) at ≤12 month follow up						
1[(a)]	RCT	36	36	MD 7.3 (5.73 to 8.87)	MODERATE	**Favours adapted therapy intervention**
Self-efficacy - Exercise (SEES) (Better indicated by higher values) at ≤12 month follow up						

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		Adapted therapy	Active control			
1[(a)]	RCT	36	36	MD 3.7 (1.46 to 5.94)	LOW	**Favours adapted therapy intervention**

[(a)] Pearl 2020b (follow-up duration: 6 months).

Mindful self-compassion vs. Active control

No of studies	Design	No of participants		Effect (95% CI)	Quality	Interpretation
		Mindful self-compassion	Active control			
Weight stigma (WSSQ) - Weight self-stigma (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	11	13	MD 0.50 (-3.58 to 4.58)	VERY LOW	Evidence could not differentiate between arms
Weight stigma (WBIS) - Weight bias internalization (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	11	13	MD -0.10 (-0.66 to 0.46)	VERY LOW	Evidence could not differentiate between arms
Weight loss (Better indicated by lower values) at ≤12 month follow up						
1[(a)]	RCT	11	13	MD 3.60 (-0.32 to 7.52)	LOW	Evidence could not differentiate between arms

(a) Braun 2022

1 **Summary of the qualitative evidence**

Studies	Finding	Illustrative quotes (where available)	CERQual explanation	Confidence
Safeness to help explore the feelings of shame				
Carter 2021b	Participants were initially afraid to attend the intervention sessions and engage in group therapy. They were worried with what the other people thought of them and their body weight. When a safeness sense was developed within the group, the participants were more willing to share their feelings and stories.	"ok to [be] open and honest… kind of knowing that I wasn't going to be judged" "Some stories [are] just deep in your heart.… At the very beginning you are afraid of it, to share it. But [as] time goes by…it gave us a chance to open our mind".	Downgraded twice for minor concerns about methodological limitations and adequacy	Low
Common humanity and the shared experience of suffering				
Carter 2021b	Participants expressed that they felt alone and isolated with their problems and concerns related to their body	"We all differed so much… and yet we all had similar struggles with our body image,	Downgraded twice for minor concerns about methodological limitations and adequacy	Low

	weight. The intervention helped them to realise that they were not the only ones facing these problems and these struggles were not a sign of weakness but a part of the human experience.	feeling nobody would like us…"		
Through compassionate wisdom, health engaging behaviours are encouraged				
Carter 2021b	Participants expressed their frustration with what others, especially family and friends, thought of their body weight, even though they actively participated in dieting and exercise. The compassion wisdom, which has been strengthen during the intervention, encouraged health related behaviours, instead of self-criticism among participants.	"I am choosing to make a healthy choice rather than saying something horrible to myself". "… I had the tools to interrupt the cycle… 'ok, let's pause this for a moment, let's just shut down this red circle for a sec, lets visit my compassionate self or talk to my compassionate other"	Downgraded twice for minor concerns about methodological limitations and adequacy	Low

Connection within the flow of compassion				
Carter 2021b	Participants initially felt uncomfortable when they were sharing their struggles within the group and other members directed compassion towards them. However, this feeling changed over the time.	"Don't be afraid to seek help from other[s] because sometimes we do need that… This process will let us feel better. And if you feel better then you will get happy and have a good mood. And if you have a good mood you can have enough energy to encourage others, just like you" "…I know in my head that such a powerful thing is not true. But in my feelings, it feels true. And it is like being able to use the compassionate self or the compassionate other to let those thoughts in, so they can have the effect on the feelings...".	Downgraded twice for minor concerns about methodological limitations and adequacy	Low

Ability to mindfully switch from criticism to compassion				
Carter 2021b	Participants acquired the ability to be more aware of the loops of self-criticism.	"I don't feel I am criticising myself as much… When I am doing it I am able to kind of check back in with myself more quickly… it doesn't escalate into this never ending loop". "I have been able to separate the constructive from the destructive… the destructive self-criticism always complains but never has a solution…"	Downgraded twice for minor concerns about methodological limitations and adequacy	Low
Connection the participants had with the content of the program				
Carter 2021b	Aspects of the intervention became part of participants' lives.	"The grounding exercises kind of re-sets you for the day" "I am feeling this way right now. These	Downgraded twice for minor concerns about methodological limitations and adequacy	Low

		are the circles that I think they are coming from… I know what I can do…"		

1 See appendix F for full GRADE and/or GRADE-CERQual tables.

1.1.7 Economic evidence

1.1.7.1 Included studies

A single search was performed to identify published economic evaluations of relevance to this review question in this guideline update (see Appendix B). The search retrieved 33 results and after removing duplicates, 32 were screened. All studies were excluded after the title and abstract screening. Thus, the review for this question does not include any study from the existing literature.

1.1.7.2 Excluded studies

No study was excluded in the full-text review.

1.1.8 Summary of included economic evidence

No study was included.

1.1.9 Economic model

This question was not prioritised for economic modelling.

1.1.10 Unit costs

Not applicable.

1.1.11 The committee's discussion and interpretation of the evidence

1.1.11.1. The outcomes that matter most

The main objective of this review was to evaluate the effectiveness, cost effectiveness and acceptability of psychological approaches to address weight stigma in children, young people and adults. The primary outcomes included in the study protocol were weight loss and weight stigma. Health related quality of life, anxiety, depression, change in eating behaviours and self-efficacy were included as secondary outcomes. During committee discussions, the group reflected on the outcomes they had prioritised during protocol development and agreed that reduction in stigma and improvement in quality of life are important outcomes for decision making because weight stigma strongly impacts the mental health of children, young people and adults living with overweight and obesity, so they agreed that these should be considered critical outcomes. The committee also noted that weight gain, which was not directly examined in this review (only weight loss was specified in the protocol), was also an important outcome as stigma can lead to weight gain, so when considering the evidence relating to weight related outcomes, they took this into account. The committee further agreed that weight loss is often not the primary goal of these interventions, and therefore should be considered as a secondary outcome.

1.1.11.2 The quality of the evidence

1.1.11.2.1 Quantitative evidence

Overall, we included 7 papers (6 studies) for quantitative evidence. We found 4 RCTs, 1 preliminary testing trial and 1 pilot study. None of the studies were conducted in the UK but 5 studies were conducted in the USA and 1 study in Portugal. One of the key limitations of this evidence was that approximately half of the evidence was from pilot trials, and the sample of the trials was very small, ranging from 55 to 87 participants.

The committee noted that the quantitative evidence ranged from moderate to very low quality, with most of the evidence being low quality. Overall, evidence was downgraded for risk of bias because of missing information on blinding of participants and/or inadequate allocation concealment. Outcomes were also rated down due to imprecision and indirectness. The reason for downgrading for indirectness was that a study (i.e., Levin 2020) evaluated an intervention which aimed to improve diet and physical activity, and weight stigma was a secondary outcome.

In the review, 3 studies utilised ‘waiting list’ as comparator, 2 used treatment as usual and 2 used active controls. The committee noted that the use of ‘waiting list’ as comparator is not preferable because it may artificially inflate estimates of the intervention effect. Moreover, one study (Pearl 2020) used an active control comparator and findings showed a reduction in weight in the control arm. This could be due to the study not being adequately powered and a larger dose of intervention program was probably needed to surpass the benefits of the active control alone.

The definitions of the different approaches also varied across the studies, however the committee generally agreed with the definitions provided within the studies. In 1 study (Pearl 2020a and Pearl 2020b) the intervention did not fall into the conventional interventions that were detailed in the protocol (see table 1). While this intervention was adapted from cognitive behavioural therapy, it also incorporated other therapies such as dialectical behaviour and acceptance and commitment therapy. Based on this, the committee noted that this intervention should not be considered true cognitive behavioural therapy. However, they agreed that the study provides an insight into how interventions can be combined.

After assessing the studies, the committee stressed the importance of further research using larger sample sizes, longer follow-up (i.e., minimum of 1 year follow-up) and of higher quality. Also, as there was a lack of evidence in children and young people, the committee stressed the importance of further research in this population. Based on this, the committee drafted a research recommendation for children, young people, and adults.

1.1.11.2.2 Qualitative evidence

Only one qualitative study was identified, which focused on an intervention for which we did not find quantitative evidence. The study was conducted in Australia. One of the major limitations of this evidence was the extremely small sample size used in the study, which included only 5 participants. Another limitation was that the study was a pilot trial.

The study evaluated the participants’ experience with a compassion focused therapy intervention program. The committee noted that the qualitative evidence mirrors what is seen in practice where different approaches are used, even though the study just focused on compassion focused therapy. The committee also noted that the evidence was assessed as low confidence due to methodological limitations and adequacy. It was low for methodological limitations due to the missing information on the relationship between researcher and participants and ethical considerations, and for adequacy because insufficient studies (fewer than 3) were identified.

After assessing this study, the committee stressed the importance of further qualitative research using larger samples and of higher quality. Also, as there was a lack of evidence in children and young people, the committee highlighted the importance of further research in this population as it was vital to understand the views and experiences of all users. Based on this, the committee drafted a research recommendation for children, young people, and adults.

1.1.11.3 Benefits and harms

1.1.11.3.1 Stigma

The committee agreed that weight stigma can be an issue for children, young people, and adults living with overweight and obesity, and is associated with many negative effects. Some of the most detrimental effects of weight stigma are poor psychological wellbeing, higher levels of depression and anxiety, and weight gain. These outcomes can significantly impact quality of life in this population.

The committee stressed the importance of assessing weight gain or weight maintenance in the evaluation of these interventions because weight stigma can be one of the main causes of weight gain. The committee also noted that children, young people, and adults with internalised stigma may be less willing to go to healthcare services (e.g., an appointment with the GP) because they may worry about the other person's opinion concerning their weight.

While evidence did show improvement in weight stigma and other outcomes, the committee noted that the evidence was not strong enough to support these interventions being recommended. More research is needed to better understand how to reduce weight stigma, so the committee added a research recommendation to gain further evidence on the effects of psychological approaches in reducing weight stigma.

The committee highlighted the importance of increasing awareness about the effects of weight stigma, especially across health care professionals (HCPs). HCPs can often be biased against patients living with overweight and obesity, and this behaviour may further increase stigma in these patients. In practice, patients can feel stigmatised by HCPs who may not tackle the issue of weight effectively and sensitively due to a lack of training in obesity. The committee noted that while psychological approaches can be useful, it is necessary for a change in practice in how weight is discussed. Training in stigma and understanding of overweight and obesity can help increase awareness of this issue. In addition, the training of medical staff, such as nurses, doctors and dietitians, could also potentially help in managing complex patients. Finally, people, especially people from minority ethnic family backgrounds, often experience a lack of understanding from the medical staff of some aspects of their cultures. Additional training on how to sensitively discuss and communicate with patients living with overweight and obesity from different family backgrounds would also be important to make these interventions more effective.

In the general principles of care section and throughout the guideline the committee used the evidence from this review to raise awareness about the impact of people's experiences of stigma and how to conduct conversations in a sensitive, non-judgemental and person-centred way.

1.1.11.3.2 When are these used in practice

General psychological interventions

Amongst the different weight management services, general psychological approaches are used to varying degrees. The committee agreed that in the adult population, all the identified psychological approaches are used in practice, but mainly in specialist overweight and obesity management services (as locally available). The committee highlighted that these interventions are usually linked to services such as bariatric surgery, where these approaches are being undertaken by trained professionals. Existing NICE guidance (CG189 Obesity: identification, assessment and management) states that surgery for obesity should be undertaken only by a multidisciplinary team that can provide psychological support before and after surgery. This statement is also supported by the British Obesity & Metabolic Surgery Society (BOMSS) Professional Standards and Commissioning Guidance 2021, which states that a senior psychologist should be part of the core bariatric multi-disciplinary team and should be involved in the pre-operative assessment of all the patients undergoing bariatric surgery. In terms of the delivery of these interventions, within specialist overweight and obesity management services, psychological interventions are commonly delivered on a one-to-one basis with some group sessions offered.

Furthermore, the committee noted that in community based behavioural overweight and obesity management services, people may be given an opportunity to learn about the psychology of weight management, but generally psychological interventions are not usually part of these services. Other services such as the NHS Diabetes Prevention Programme are known to use techniques such as motivational interviewing, which is a method of counselling, however it is unclear if psychological interventions are used to address stigma. Additionally, compared to specialist overweight and obesity management services, support within community based behavioural overweight and obesity management services is usually group-based.

Amongst children and young people, the committee highlighted that compassion focused therapy, cognitive behaviour therapy and acceptance and commitment therapy are also used in practice in children and young people but usually in specialist overweight and obesity management services. During the development of the review, it was highlighted that Complications from Excess Weight (CEW) clinics, which permit to children and young people to access the clinics following referral by a range of clinicians (e.g., community paediatrician, general practitioners from primary care, etc.) had been set up. Within these clinics, psychological support would be offered.

Psychological interventions addressing stigma

There are not specific psychological interventions addressing weight stigma. It was noted that while theoretically there is some scope to introduce psychological interventions to address stigma within weight management services, the committee highlighted that there was a lack of psychologists in the UK, especially with specialist obesity training. Due to this, there is disparity in access to psychologists even in specialist overweight and obesity management services.

The committee agreed that if these approaches were implemented further in specialist overweight and obesity management services, a number of professionals could be involved such as psychiatrists, psychological therapists, health and wellbeing practitioners and health and wellbeing coaches. However, the committee highlighted that those professionals would need further training to appropriately deliver these interventions which would have an impact on cost.

The committee highlighted the need to include these interventions especially in community based behavioural overweight and obesity management services because stigma can impact help seeking behaviours and combating the issue earlier is crucial. However, the committee

further noted that the introduction of these interventions in these services may have an impact on costs, due to training and the need for psychologists in these services.

However, based on evidence, and their understanding of overweight and obesity management services, the committee opted to draft a research recommendation to further explore these interventions as more research is needed on these psychological approaches at different tiers of weight management services.

1.1.11.4 Cost effectiveness and resource use

No relevant published economic evaluations were identified, and no original economic modelling was performed for this research question due to the low quality evidence of clinical benefits of psychological interventions. As detailed above (in section 1.1.11.3.2), there are significant variations in the availability of psychological approaches at a local level. For instance, most psychological approaches identified are only used at specialist overweight and obesity management services but not in community based overweight and obesity management services. Certain psychological programmes, such as the NHS digital weight programme, are provided by some community-based services but not others. Therefore, where an expansion of psychological services is required, this would require additional resources to implement, such as hiring psychological professionals and training existing workforce, which may be significant at a local level. Although some types of counselling (e.g. ACT) can be delivered by non-psychologists with suitable training, the committee were concerned that a psychologist may still be needed for complex cases where there is a mixture of psychological needs. The committee also discussed the implications on other mental health support programmes that are already struggling to meet current demand, so that any addition of psychological approaches could stretch the health care system even further. Therefore, the committee agreed not to recommend any psychological intervention as neither clinical nor economic evidence is strong enough to justify the potentially large resource impact on the health care system.

1.1.11.5 Other factors the committee took into account

1.1.11.5.1 Other populations

No evidence was identified in children, young people and adults with mental illness, including physical and special educational needs and disabilities (SEND), and older people but the committee stated that these are important groups because there is further internalised stigma. For example, a person living with mental illness may face or feel stigmatised due to their degree of overweight and obesity but also their mental illness. This may further stop people from seeking help for healthcare professionals. The committee also noted that it is not appropriate to assume that one approach will work for all groups. It is necessary to identify and personalise the right intervention to the right person. Due to the lack of evidence, these populations were listed as important subgroups in the research recommendation.

1.1.11.5.2 Children, young people and adults from lower socioeconomic groups- double stigma and lack of services

The committee noted that no evidence was found on psychological interventions to reduce weight stigma in adults, young people, or children from lower socioeconomic groups. Moreover, the committee agreed that this is an extremely relevant subgroup because in this population adults are more likely to be living with overweight and obesity and children and young people are at increased risk of obesity in adulthood. Similar to other subgroups, people in this subgroup may face stigma not only due to the degree of overweight and

obesity but are also subjected to stigma due to their economic status. Based on this, the committee highlighted the need for more research in this group.

1.1.12.5.3 Further research

The committee noted that other approaches have been tested to reduce weight stigma for example intuitive eating, which consists of trusting your body to make the right food choice, without judging yourself or the influence of diet culture. While the focus of the review was not on wider approaches to reduce stigma, the committee highlighted that this is an emerging field.

1.1.12 Recommendations supported by this evidence review

This evidence review supports a research recommendation on psychological approaches to address weight stigma in children, young people, and adults.

1.1.13 References – included studies

1.1.13.1 Effectiveness

Systematic reviews

Carter A, Gilbert P, Kirby JN. A systematic review of compassion-based interventions for individuals struggling with body weight shame. Psychol Health. 2021 Oct 25:1-31. doi: 10.1080/08870446.2021.1955118. Epub ahead of print. PMID: 34694950.

Griffiths C, Williamson H, Zucchelli F, Paraskeva N, Moss T. A Systematic Review of the Effectiveness of Acceptance and Commitment Therapy (ACT) for Body Image Dissatisfaction and Weight Self-Stigma in Adults. J Contemp Psychother. 2018;48(4):189-204. doi: 10.1007/s10879-018-9384-0. Epub 2018 Feb 21. PMID: 30369631; PMCID: PMC6182714.

Primary studies within the systematic reviews

Carter A, Gilbert P, Kirby JN. Compassion-focused therapy for body weight shame: A mixed methods pilot trial. Clin Psychol Psychother. 2021 Jan;28(1):93-108. doi: 10.1002/cpp.2488. Epub 2020 Jun 22. PMID: 32515067.

Lillis, J., Hayes, S. C., Bunting, K., & Masuda, A. (2009). Teaching acceptance and mindfulness to improve the lives of the obese: A preliminary test of a theoretical model. Annals of Behavioral Medicine, 37, 58–69.

Palmeira, L., Pinto-Gouveia, J., & Cunha, M. (2017a). Exploring the efficacy of an acceptance, mindfulness & compassionate-based group intervention for women struggling with their weight (Kg-Free): A randomized controlled trial. Appetite, 112, 107–116

Primary studies identified with the search strategies

Braun, Tosca D, Olson, Kayloni, Panza, Emily et al. (2022) Internalized weight stigma in women with class III obesity: A randomized controlled trial of a virtual lifestyle modification intervention followed by a mindful self-compassion intervention. Obesity science & practice 8(6): 816-827

Levin ME, Petersen JM, Durward C, Bingeman B, Davis E, Nelson C, Cromwell S. A randomized controlled trial of online acceptance and commitment therapy to improve diet

and physical activity among adults who are overweight/obese. Transl Behav Med. 2021 Jun 17;11(6):1216-1225. doi: 10.1093/tbm/ibaa123. PMID: 33289785.

Pearl RL, Wadden TA, Bach C, Gruber K, Leonard S, Walsh OA, Tronieri JS, Berkowitz RI. Effects of a cognitive-behavioral intervention targeting weight stigma: A randomized controlled trial. J Consult Clin Psychol. 2020 May;88(5):470-480. doi: 10.1037/ccp0000480. Epub 2020 Jan 23. PMID: 31971410; PMCID: PMC7148168.

Pearl RL, Wadden TA, Bach C, Tronieri JS, Berkowitz RI. Six-Month Follow-up from a Randomized Controlled Trial of the Weight BIAS Program. Obesity (Silver Spring). 2020 Oct;28(10):1878-1888. doi: 10.1002/oby.22931. Epub 2020 Aug 28. PMID: 32860344; PMCID: PMC7511433.

Potts S, Krafft J, Levin ME. A pilot randomized controlled trial of acceptance and commitment therapy guided self-help for overweight and obese adults high in weight self-stigma. Behavior Modification. 2022 Jan;46(1):178-201.

1.1.13.2 Economic

None

1.1.13.3 Other

None

Appendices

Appendix A – Review protocols

Review protocol for psychological interventions to address stigma in children, young people and adults

ID	Field	Content
0.	PROSPERO registration number	CRD42022316098
1.	Review title	Effectiveness, cost effectiveness and acceptability of psychological approaches to address the counterproductive effect of weight stigma in achieving or maintaining weight loss, or negating the adverse impact of weight stigma, in children, young people and adults
2.	Review question	What is the effectiveness, cost effectiveness and acceptability of psychological approaches to address the counterproductive effect of weight stigma in achieving or maintaining weight loss, or negating the adverse impact of weight stigma, in children, young people and adults?
3.	Objective	To systematically find and review evidence for the effectiveness, cost effectiveness and acceptability of psychological approaches to address the counterproductive effect of weight stigma in achieving or maintaining weight loss, or negating the adverse impact of weight stigma, in children, young people and adults
4.	Searches	The following databases will be searched:

		• Cochrane Central Register of Controlled Trials (CENTRAL) • Cochrane Database of Systematic Reviews (CDSR) • Embase • MEDLINE • PsycINFO (Ovid) Searches will be restricted by: • Date limit: From 2007 • English language • Human studies • Qualitative studies: limited to OECD countries Other searches: • Inclusion lists of systematic reviews The searches will be re-run 6 weeks before final submission of the review and further studies retrieved for inclusion. The full search strategies for MEDLINE database will be published in the final review.
5.	Condition or domain being studied	• The counterproductive effect of weight stigma in achieving or maintaining weight loss • The adverse impact of stigma, in children, young people and adults

6.	Population	Inclusion:
		• People aged 18 years and over who are:
		  ○ Overweight (BMI 25 kg/m^2 to 29.9 kg/m^2) or
		  ○ living with obesity (BMI ≥ 30 kg/m^2)
		
		Note: Boundary values for overweight and obesity are lower in adults from ethnic backgrounds
		• Children and young people who have a: BMI above the 91st centile (1.34 standard deviations)
		• Parents and carers' of children and young people living with overweight and obesity
		
		Exclusion:
		• Pregnant women.
		• Children under 2 years.

7.	Intervention/Exposure/Test	Psychological interventions that aim to reduce weight stigma such as compassion focused therapy, acceptance commitment therapy or cognitive behavioural therapy where the specific aim is to reduce the adverse impact of weight stigma.
8.	Comparator/Reference standard/Confounding factors	Standard care • No intervention • Waiting list control • Alternative weight-management intervention that does not have the aim of reducing the adverse impact of weight stigma

9.	Types of study to be included	• Randomised Controlled Trials • Prospective or retrospective comparative observational studies • Qualitative studies evaluating the acceptability of psychological approaches to reducing stigma in people living with obesity that collect data from focus groups or interviews. • Qualitative studies evaluation parents and carers' views on acceptability of psychological approaches. • Systematic reviews of the study types listed above (to be used as a source of studies to cross check the studies included in the review).
10.	Other exclusion criteria	• Non-English language studies • Qualitative studies conducted in countries outside of the Organisation for Economic Co-operation and Development (OECD)
11.	Context	This question forms part of an update and amalgamation of the following guidelines: • Obesity: identification, assessment and management (2014) NICE guideline CG189 • Weight management: lifestyle services for overweight or obese children and young people (2013) NICE guideline PH47 • BMI: preventing ill health and premature death in black, Asian and other minority ethnic groups (2013) NICE guideline PH46 • Obesity prevention (006) NICE guideline CG43. The review answers a new review question: it does not update an evidence review done as part of these previous guidelines directly.

12.	Primary outcomes (critical outcomes)	All outcomes will be grouped by duration of follow-up: ≤12 months (or the one nearest to 12 months if multiple time-points are given) and >12 months (longest one if multiple time-points are given).
		
		• Weight loss (achieving or maintaining) at 12 months and for the longest time point reported by the study. Measures including:
		  ○ Weight loss
		  ○ BMI reduction
		  ○ Waist circumference
		  ○ Waist-to-height ratio
		  ○ BMI z score in children
		• Stigma (*using the Weight Bias Internalisation Scale (WBIS; Durso and Latner, 2008) or Weight Self-Stigma Questionnaire (WSSQ; Lillis et al 2010 or other validated tool)*
		
		Qualitative studies:
		
		The outcomes will be generated using emergent coding, but are expected to include the following:
		
		• Factors that increase acceptability of psychological approach
		• Factors that reduce acceptability of psychological approach

13.	Secondary outcomes (important outcomes)	• Health related quality of life (measured using validated tool) • Anxiety and depression (measured using validated tools) • Change in eating behaviours (for example, binge eating, night eating, emotional eating)

		• Self efficacy (measured using validated tool such as the general self-efficacy scale)
14.	Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into EPPI reviewer and de-duplicated. 10% of the abstracts will be reviewed by two reviewers, with any disagreements resolved by discussion or, if necessary, a third independent reviewer. The full text of potentially eligible studies will be retrieved and will be assessed in line with the criteria outlined above. A standardised form will be used to extract data from studies (see Developing NICE guidelines: the manual section 6.4). Study investigators may be contacted for missing data where time and resources allow.
15.	Risk of bias (quality) assessment	Risk of bias in RCT evidence will be assessed using the Cochrane RoB 2.0, for cohort studies using Cochrane ROBINS-I, for case-control studies using the CASP checklist and for Qualitative studies using the CASP qualitative checklist, as described in Developing NICE guidelines: the manual.
16.	Strategy for data synthesis	**Quantitative review** Meta-analyses of outcome data will be conducted for all comparisons that are reported by more than one study, with reference to the Cochrane Handbook for Systematic Reviews of Interventions (Higgins et al. 2011). Fixed- and random-effects models (der Simonian and Laird) will be fitted for all comparators, with the presented analysis dependent on the degree of heterogeneity in the assembled evidence. Fixed-effects models will be the preferred choice to report, but in situations where the assumption of a shared

		mean for fixed-effects model is clearly not met, even after appropriate pre-specified subgroup analyses is conducted, random-effects results are presented. Fixed-effects models are deemed to be inappropriate if one or both of the following conditions was met: • Significant between study heterogeneity in methodology, population, intervention or comparator was identified by the reviewer in advance of data analysis. • The presence of significant statistical heterogeneity in the meta-analysis, defined as I2≥50%. Meta-analyses will be performed in Cochrane Review Manager V5.3 **Qualitative review** The aim of the qualitative review is to establish the acceptability of interventions included in this protocol. Information about the acceptability of interventions from qualitative studies will be combined using a thematic synthesis. Themes will be generated using emergent coding, but are expected to include the following: • Factors that increase acceptability of psychological approach • Factors that reduce acceptability of psychological approach By examining the findings of each included study, descriptive themes will be independently identified and coded in NVivo v.11. The qualitative synthesis will interrogate these 'descriptive themes' to develop 'analytical themes', using the

		theoretical framework derived from overarching qualitative review questions. Themes will also be organised at the level of recipients of care and providers of care. CERQual will be used to assess the confidence we have in the summary findings of each of the identified themes. Evidence from all qualitative study designs (interviews, focus groups etc.) is initially rated as high confidence and the confidence in the evidence for each theme will be downgraded from this initial point.
17.	Analysis of sub-groups	**Quantitative review:** Data will be stratified according to the mean age of the study population: • Children aged 2 to 12 • Young people aged 12 to 17 • Adults aged 18 or more Interventions targeting parents or carers will also be presented separately. If data is available, it will also be subgrouped by: • Ethnicity • Socioeconomic background • Gender • People with the following eating behaviours: binge eating, night eating, emotional eating

		Qualitative review: Data will be stratified according to the mean age of the study population: • Children aged 2 to 12 • Young people aged 12 to 17 • Adults aged 18 or more Interventions targeting parents or carers will also be presented separately. If data is available, it will also be stratified by: • Ethnicity • Socioeconomic background • Gender • People with the following eating behaviours: binge eating, night eating, emotional eating • People with a learning disability • People with a severe mental health problem • Sexual orientation
18.	Type and method of review	☒ Intervention ☐ Diagnostic

		☐ Prognostic ☒ Qualitative ☐ Epidemiologic ☐ Service Delivery ☐ Other (please specify)		
19.	Language	English		
20.	Country	England		
21.	Anticipated or actual start date	March 2022		
22.	Anticipated completion date	June 2023		
23.	Stage of review at time of this submission	**Review stage**	**Started**	**Completed**
		Preliminary searches	☐	☐
		Piloting of the study selection process	☐	☐

		Formal screening of search results against eligibility criteria	☐	☐
		Data extraction	☐	☐
		Risk of bias (quality) assessment	☐	☐
		Data analysis	☐	☐
24.	Named contact	**5a. Named contact** Guideline Updates Team **5b Named contact e-mail** weightmgt@nice.org.uk **5c Organisational affiliation of the review** National Institute for Health and Care Excellence (NICE) and NICE Guideline Development Team		
25.	Review team members	From the NICE Guideline Development Team: • Kathryn Hopkins • Shreya Shukla • Anthony Gildea • Alexander Allen • Kusal Lokuge		

		• Amy Finnegan
26.	Funding sources/sponsor	This systematic review is being completed by the Guideline updates team which receives funding from NICE.
27.	Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
28.	Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of Developing NICE guidelines: the manual. Members of the guideline committee are available on the NICE website: https://www.nice.org.uk/guidance/indevelopment/gid-ng10182
29.	Other registration details	
30.	Reference/URL for published protocol	
31.	Dissemination plans	NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as: • notifying registered stakeholders of publication • publicising the guideline through NICE's newsletter and alerts

		• issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.
32.	Keywords	Weight management, stigma, psychological interventions
33.	Details of existing review of same topic by same authors	New review
34.	Current review status	☒ Ongoing ☐ Completed but not published ☐ Completed and published ☐ Completed, published and being updated ☐ Discontinued
35..	Additional information	
36.	Details of final publication	www.nice.org.uk

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Appendix B – Literature search strategies

Search design and peer review

A NICE information specialist conducted the literature searches for the evidence review. The clinical searches were run on 6th April 2022 and then re-run on 14th April 2023. The cost effectiveness searches were run on 12th April. This search report is compliant with the requirements of PRISMA-S.

The MEDLINE strategy below was quality assured (QA) by a trained NICE information specialist. All translated search strategies were peer reviewed to ensure their accuracy. Both procedures were adapted from the 2016 PRESS Checklist.

The principal search strategy was developed in MEDLINE (Ovid interface) and adapted, as appropriate, for use in the other sources listed in the protocol, taking into account their size, search functionality and subject coverage.

Review management

The search results were managed in EPPI-Reviewer v5. Duplicates were removed in EPPI-R5 using a two-step process. First, automated deduplication is performed using a high-value algorithm. Second, manual deduplication is used to assess 'low-probability' matches. All decisions made for the review can be accessed via the deduplication history.

Prior work

2 papers were identified as test papers by the committee.

Limits and restrictions

English language limits were applied in adherence to standard NICE practice and the review protocol.

Limits to exclude letters, editorials, news, conferences were applied in adherence to standard NICE practice and the review protocol.

The search was limited from January 2007 to April 2022 (date of the search) as defined in the review protocol.

The limit to remove animal studies in the searches was the standard NICE practice, which has been adapted from: Dickersin, K., Scherer, R., & Lefebvre, C. (1994). Systematic Reviews: Identifying relevant studies for systematic reviews. *BMJ*, 309(6964), 1286.

Search filters

Clinical health searches

- RCT filters:
    - McMaster Therapy – Medline - "best balance of sensitivity and specificity" version.

Haynes RB et al. (2005) Optimal search strategies for retrieving scientifically strong studies of treatment from Medline: analytical survey. *BMJ*, 330, 1179-1183.

- McMaster Therapy – Embase "best balance of sensitivity and specificity" version.

  Wong SSL et al. (2006) Developing optimal search strategies for detecting clinically sound treatment studies in EMBASE. Journal of the Medical Library Association, 94(1), 41-47.

- Systematic reviews filters:
  - Lee, E. et al. (2012) An optimal search filter for retrieving systematic reviews and meta-analyses. *BMC Medical Research Methodology,* 12(1), 51.

    In MEDLINE, the standard NICE modifications were used: pubmed.tw added; systematic review.pt added from MeSH update 2019.

    In Embase, the standard NICE modifications were used: pubmed.tw added to line medline.tw.

- Observational filter:
  - The terms used for observational studies are standard NICE practice that have been developed in house.
  - The observational filter was adapted to remove controlled studies, cross-sectional studies, case series studies.

- OECD filter:
  - The OECD countries filters were used without modification:
  - Ayiku, L., Hudson, T., Williams, C., Levay, P., & Jacobs, C. (submitted for publication) The NICE OECD countries geographic search filters: Part 2 - Validation of the MEDLINE and Embase (Ovid) filters. *Journal of the Medical Library Association* (in peer review)

- Qualitative filter:
  - The terms used for qualitative studies are standard NICE practice that have been developed in house.

Cost effectiveness searches

The NICE cost utility (sensitive) filter was applied to the Medline and Embase searches to identify cost utility studies.

- Cost Utility filter is available via the ISSG search filters resource

Key decisions

The searches were translated from the Medline search strategy. If a MeSH term or alternative was not available, the term was not included in that translation. For instance, Obesity Management/ was not used in the Cochrane search.

DARE (CRD) was not searched as it contains historical information. This review question was interested in recently published evidence.

For the clinical searches, the search filters were not applied to Epistemonikos and PsycInfo as the search filters were not compatible with these databases.

For the cost utility searches, a modified version of the searches was run in INAHTA and NHS EED. This decision was taken because the search strategy is complex and the search functionality in both databases would not be compatible.

23 papers were identified by the analysts and added after the main search. The analysts had identified the papers through citation searching

Clinical/public health searches

Main search – Databases

Database	Date searched	Database Platform	Database segment or version	No. of results downloaded
Cochrane Central Register of Controlled Trials (CENTRAL)	07/04/2022	Wiley	Issue 4 of 12, April 2022	90
Cochrane Database of Systematic Reviews (CDSR)	06/04/2022	Wiley	Issue 4 of 12, April 2022	2
Embase	06/04/2022	Ovid	1974 to 2022 April 05	854
Epistemonikos	07/04/2022	Epistemonikos	N/A	531
MEDLINE All	06/04/2022	Ovid	1946 to April 05, 2022	362
PsycINFO	06/04/2022	Ovid	1987 to April Week 1 2022	130

Re-run search – Databases

Database	Date searched	Database Platform	Database segment or version	No. of results downloaded
Cochrane Central Register of Controlled Trials (CENTRAL)	14/04/2023	Wiley	Issue 4 of 12, April 2023	12
Cochrane Database of Systematic Reviews (CDSR)	14/04/2023	Wiley	Issue 4 of 12, April 2023	0
Embase	14/04/2023	Ovid	1974 to 2023 April 13	102
Epistemonikos	14/04/2023	Epistemonikos	n/a	108
MEDLINE All	14/04/2023	Ovid	1946 to April 13, 2023	39
PsycINFO	14/04/2023	Ovid	2002 to April Week 2 2023	22

Search strategy history

Database name: Cochrane CDSR & CENTRAL

#1 MeSH descriptor: [Obesity] explode all trees 15530
#2 MeSH descriptor: [Obesity Management] this term only 21
#3 MeSH descriptor: [Overweight] this term only 5757
#4 MeSH descriptor: [Adiposity] this term only 830
#5 (obes* or overweight* or preobes* or adiposit*):ti,ab 46822
#6 {or #1-#5} 49493
#7 MeSH descriptor: [Weight Prejudice] this term only 8
#8 MeSH descriptor: [Social Stigma] this term only 326
#9 MeSH descriptor: [Self Concept] this term only 2478
#10 MeSH descriptor: [Shame] explode all trees 67
#11 MeSH descriptor: [Bullying] this term only 158
#12 MeSH descriptor: [Discrimination, Psychological] this term only 517
#13 MeSH descriptor: [Social Discrimination] this term only 18
#14 (body* NEAR/2 (shame* or shaming* or uneas*)):ti,ab 35
#15 (internal* NEAR/1 weight* NEAR/1 bias):ti,ab 16
#16 {or #7-#15} 3519
#17 #6 and #16 201
#18 ((weight* or obes* or overweight* or preobes* or adiposit*) NEAR/2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)):ti,ab 140
#19 #17 or #18 314
#20 MeSH descriptor: [Psychotherapy] explode all trees 26503
#21 MeSH descriptor: [Cognitive Behavioral Therapy] explode all trees 10173
#22 MeSH descriptor: [Cognitive Dissonance] this term only 91
#23 MeSH descriptor: [Mindfulness] explode all trees 1223
#24 MeSH descriptor: [Counseling] this term only 4540
#25 ((psycho* or cognitiv* or behavior* or behaviour* or lifestyle* or acceptance* or compassion* or mindful* or group*) NEAR/2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)):ti,ab 288685
#26 (psychotherap* or mindful* or CBT or counsel*):ti,ab 44078
#27 (acceptance NEXT commitment NEXT therap*):ti,ab 49
#28 {or #20-#27} 317270
#29 #19 and #28 140
#30 "conference":pt or (clinicaltrials or trialsearch):so 593943
#31 #29 and #30 with Publication Year from 2007 to 2022, in Trials 29
#32 #29 with Cochrane Library publication date Between Jan 2007 and Apr 2022, in Cochrane Reviews 2

Database name: Embase

1 exp *obesity/ or Obesity Management/ (267948)
2 (obes* or overweight* or preobes* or adiposit*).ti,ab. (546090)
3 or/1-2 (591742)
4 weight bias/ or social stigma/ or self concept/ or exp shame/ or bullying/ or perceptive discrimination/ or social discrimination/ (140993)
5 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (443)
6 (internal* adj1 weight* adj1 bias).ti,ab. (70)

7 or/4-6 (141215)
8 3 and 7 (4728)
9 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)).ti,ab. (1724)
10 8 or 9 (6014)
11 exp psychotherapy/ or exp cognitive behavioral therapy/ or cognition/ or exp mindfulness/ or counseling/ (592984)
12 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (718432)
13 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (270786)
14 or/11-13 (1314666)
15 10 and 14 (1278)
16 limit 15 to dc=20070101-20221231 (1136)
17 nonhuman/ not human/ (4966611)
18 16 not 17 (1133)
19 (conference abstract or conference paper or conference proceeding or "conference review").pt. (5145958)
20 18 not 19 (851)
21 Qualitative Research/ (98533)
22 exp Interview/ (326939)
23 exp Questionnaire/ (825086)
24 exp Observational Method/ (7087)
25 Narrative/ (17810)
26 (qualitative$ or interview$ or focus group$ or questionnaire$ or narrative$ or narration$ or survey$).tw. (2292905)
27 (ethno$ or emic or etic or phenomenolog$ or grounded theory or constant compar$ or (thematic$ adj4 analys$) or theoretical sampl$ or purposive sampl$).tw. (147418)
28 (hermeneutic$ or heidegger$ or husser$ or colaizzi$ or van kaam$ or van manen$ or giorgi$ or glaser$ or strauss$ or ricoeur$ or spiegelberg$ or merleau$).tw. (14980)
29 (metasynthes$ or meta-synthes$ or metasummar$ or meta-summar$ or metastud$ or meta-stud$ or metathem$ or meta-them$).tw. (2283)
30 "critical interpretive synthes*".tw. (154)
31 (realist adj (review* or synthes*)).tw. (730)
32 (noblit and hare).tw. (96)
33 (meta adj (method or triangulation)).tw. (42)
34 (CERQUAL or CONQUAL).tw. (307)
35 ((thematic or framework) adj synthes*).tw. (1570)
36 or/21-29 (2547112)
37 20 and 36 (399)
38 afghanistan/ or africa/ or "africa south of the sahara"/ or albania/ or algeria/ or andorra/ or angola/ or argentina/ or "antigua and barbuda"/ or armenia/ or exp azerbaijan/ or bahamas/ or bahrain/ or bangladesh/ or barbados/ or belarus/ or belize/ or benin/ or bhutan/ or bolivia/ or borneo/ or exp "bosnia and herzegovina"/ or botswana/ or exp brazil/ or brunei darussalam/ or bulgaria/ or burkina faso/ or burundi/ or cambodia/ or cameroon/ or cape verde/ or central africa/ or central african republic/ or chad/ or exp china/ or comoros/ or congo/ or cook islands/ or cote d'ivoire/ or croatia/ or cuba/ or cyprus/ or democratic republic congo/ or djibouti/ or dominica/ or dominican republic/ or ecuador/ or el salvador/ or egypt/ or equatorial guinea/ or eritrea/ or eswatini/ or ethiopia/ or exp "federated states of micronesia"/ or fiji/ or gabon/ or gambia/ or exp "georgia (republic)"/ or ghana/ or grenada/ or guatemala/

or guinea/ or guinea-bissau/ or guyana/ or haiti/ or honduras/ or exp india/ or exp indonesia/ or iran/ or exp iraq/ or jamaica/ or jordan/ or kazakhstan/ or kenya/ or kiribati/ or kosovo/ or kuwait/ or kyrgyzstan/ or laos/ or lebanon/ or liechtenstein/ or lesotho/ or liberia/ or libyan arab jamahiriya/ or madagascar/ or malawi/ or exp malaysia/ or maldives/ or mali/ or malta/ or mauritania/ or mauritius/ or melanesia/ or moldova/ or monaco/ or mongolia/ or "montenegro (republic)"/ or morocco/ or mozambique/ or myanmar/ or namibia/ or nauru/ or nepal/ or nicaragua/ or niger/ or nigeria/ or niue/ or north africa/ or oman/ or exp pakistan/ or palau/ or palestine/ or panama/ or papua new guinea/ or paraguay/ or peru/ or philippines/ or polynesia/ or qatar/ or "republic of north macedonia"/ or romania/ or exp russian federation/ or rwanda/ or sahel/ or "saint kitts and nevis"/ or "saint lucia"/ or "saint vincent and the grenadines"/ or saudi arabia/ or senegal/ or exp serbia/ or seychelles/ or sierra leone/ or singapore/ or "sao tome and principe"/ or solomon islands/ or exp somalia/ or south africa/ or south asia/ or south sudan/ or exp southeast asia/ or sri lanka/ or sudan/ or suriname/ or syrian arab republic/ or taiwan/ or tajikistan/ or tanzania/ or thailand/ or timor-leste/ or togo/ or tonga/ or "trinidad and tobago"/ or tunisia/ or turkmenistan/ or tuvalu/ or uganda/ or exp ukraine/ or exp united arab emirates/ or uruguay/ or exp uzbekistan/ or vanuatu/ or venezuela/ or viet nam/ or western sahara/ or yemen/ or zambia/ or zimbabwe/ (1526253)
39 exp "organisation for economic co-operation and development"/ (1981)
40 exp australia/ or "australia and new zealand"/ or austria/ or baltic states/ or exp belgium/ or exp canada/ or chile/ or colombia/ or costa rica/ or czech republic/ or denmark/ or estonia/ or europe/ or exp finland/ or exp france/ or exp germany/ or greece/ or hungary/ or iceland/ or ireland/ or israel/ or exp italy/ or japan/ or korea/ or latvia/ or lithuania/ or luxembourg/ or exp mexico/ or netherlands/ or new zealand/ or north america/ or exp norway/ or poland/ or exp portugal/ or scandinavia/ or sweden/ or slovakia/ or slovenia/ or south korea/ or exp spain/ or switzerland/ or "Turkey (republic)"/ or exp united kingdom/ or exp united states/ or western europe/ (3563244)
41 european union/ (29286)
42 developed country/ (34494)
43 or/39-42 (3594232)
44 38 not 43 (1386592)
45 37 not 44 (374)
46 Clinical study/ (157723)
47 Case control study/ (186531)
48 Family study/ (25406)
49 Longitudinal study/ (170434)
50 Retrospective study/ (1228020)
51 comparative study/ (944481)
52 Prospective study/ (758335)
53 Randomized controlled trials/ (224075)
54 52 not 53 (749523)
55 Cohort analysis/ (828670)
56 cohort analy$.tw. (16342)
57 (Cohort adj (study or studies)).tw. (387322)
58 (Case control$ adj (study or studies)).tw. (156471)
59 (follow up adj (study or studies)).tw. (68901)
60 (observational adj (study or studies)).tw. (213877)
61 (epidemiologic$ adj (study or studies)).tw. (115287)
62 prospective.tw. (990388)
63 retrospective.tw. (1083051)
64 or/46-51,54-63 (4499924)
65 random:.tw. (1775718)

66 placebo:.mp. (492401)
67 double-blind:.tw. (229134)
68 or/65-67 (2042586)
69 (MEDLINE or pubmed).tw. (338984)
70 exp systematic review/ or systematic review.tw. (408719)
71 meta-analysis/ (242664)
72 intervention$.ti. (234916)
73 or/69-72 (821205)
74 20 and (64 or 68 or 73) (480)

Database name: Epistemonikos
#1
(title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))

#2
(title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))

#3 (NOTE: 1 AND 2)

(title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))))

#4
((weight* or obes* or overweight* or preobes* or adiposit*) AND (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*))

#5 (NOTE: 3 or 4)

(title:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))))) OR abstract:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND

(shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias)))))) OR (title:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))))) OR abstract:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*)))))))

#6
(title:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*)) OR abstract:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*))) OR (title:(psychotherap* OR mindful* OR CBT OR counsel*) OR abstract:(psychotherap* OR mindful* OR CBT OR counsel*)) OR (title:(acceptance AND commitment AND therap*) OR abstract:(acceptance AND commitment AND therap*))

#7 (note: 5 and 6)

(title:((title:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))))) OR abstract:((title:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias)))))) OR (title:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))))) OR abstract:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))))))) OR

abstract:((title:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))))) OR abstract:((title:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*))) OR abstract:((title:(obes* OR overweight* OR preobes* OR adiposit*) OR abstract:(obes* OR overweight* OR preobes* OR adiposit*)))) AND (title:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias))) OR abstract:((title:(body* AND (shame* OR shaming* OR uneas*)) OR abstract:(body* AND (shame* OR shaming* OR uneas*))) OR (title:(internal* AND weight* AND bias) OR abstract:(internal* AND weight* AND bias)))))) OR (title:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*)))))) OR abstract:((title:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*))) OR abstract:(((weight* OR obes* OR overweight* OR preobes* OR adiposit*) AND (stigma* OR self-stigma* OR destigma* OR prejudice* OR shame* OR shaming* OR bully* OR discriminat*)))))))) AND (title:((title:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*)) OR abstract:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*))) OR (title:(psychotherap* OR mindful* OR CBT OR counsel*) OR abstract:(psychotherap* OR mindful* OR CBT OR counsel*)) OR (title:(acceptance AND commitment AND therap*) OR abstract:(acceptance AND commitment AND therap*))) OR abstract:((title:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*)) OR abstract:((psycho* OR cognitiv* OR behavior* OR behaviour* OR lifestyle* OR acceptance* OR compassion* OR mindful* OR group*) AND (therap* OR interven* OR dissonan* OR treat* OR strateg* OR approach* OR assess*))) OR (title:(psychotherap* OR mindful* OR CBT OR counsel*) OR abstract:(psychotherap* OR mindful* OR CBT OR counsel*)) OR (title:(acceptance AND commitment AND therap*) OR abstract:(acceptance AND commitment AND therap*))))

Limited by date: 2007-2022 [531 results]

Database name: Medline ALL

1 exp *obesity/ or Obesity Management/ or overweight/ or *adiposity/ (193338)
2 (obes* or overweight* or preobes* or adiposit*).ti,ab. (371997)
3 or/1-2 (399167)

4 Weight Prejudice/ or social stigma/ or self concept/ or exp Shame/ or bullying/pc or Discrimination, Psychological/ or Social Discrimination/ (93476)
5 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (338)
6 (internal* adj1 weight* adj1 bias).ti,ab. (68)
7 or/4-6 (93686)
8 3 and 7 (2760)
9 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)).ti,ab. (1444)
10 8 or 9 (3807)
11 exp psychotherapy/ or exp cognitive behavioral therapy/ or Cognitive Dissonance/ or exp Mindfulness/ or counseling/ (245368)
12 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (501338)
13 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (190324)
14 or/11-13 (794587)
15 10 and 14 (481)
16 limit 15 to ed=20070101-20221231 (337)
17 limit 15 to dt=20070101-20221231 (352)
18 16 or 17 (355)
19 animals/ not humans/ (4951493)
20 18 not 19 (355)
21 limit 20 to (letter or historical article or comment or editorial or news or case reports) (5)
22 20 not 21 (350)
23 Qualitative Research/ (72716)
24 Nursing Methodology Research/ (16405)
25 Interview.pt. (30217)
26 exp Interviews as Topic/ (66792)
27 Questionnaires/ (530982)
28 Narration/ (9551)
29 Health Care Surveys/ (33917)
30 (qualitative$ or interview$ or focus group$ or questionnaire$ or narrative$ or narration$ or survey$).tw. (1762791)
31 (ethno$ or emic or etic or phenomenolog$ or grounded theory or constant compar$ or (thematic$ adj4 analys$) or theoretical sampl$ or purposive sampl$).tw. (122231)
32 (hermeneutic$ or heidegger$ or husser$ or colaizzi$ or van kaam$ or van manen$ or giorgi$ or glaser$ or strauss$ or ricoeur$ or spiegelberg$ or merleau$).tw. (12286)
33 (metasynthes$ or meta-synthes$ or metasummar$ or meta-summar$ or metastud$ or meta-stud$ or metathem$ or meta-them$).tw. (2048)
34 "critical interpretive synthes*".tw. (157)
35 (realist adj (review* or synthes*)).tw. (718)
36 (noblit and hare).tw. (83)
37 (meta adj (method or triangulation)).tw. (38)
38 (CERQUAL or CONQUAL).tw. (304)
39 ((thematic or framework) adj synthes*).tw. (1433)
40 or/23-39 (1987827)
41 22 and 40 (181)
42 afghanistan/ or africa/ or africa, northern/ or africa, central/ or africa, eastern/ or "africa south of the sahara"/ or africa, southern/ or africa, western/ or albania/ or algeria/ or andorra/ or angola/ or "antigua and barbuda"/ or argentina/ or armenia/ or azerbaijan/ or bahamas/ or

bahrain/ or bangladesh/ or barbados/ or belize/ or benin/ or bhutan/ or bolivia/ or borneo/ or "bosnia and herzegovina"/ or botswana/ or brazil/ or brunei/ or bulgaria/ or burkina faso/ or burundi/ or cabo verde/ or cambodia/ or cameroon/ or central african republic/ or chad/ or exp china/ or comoros/ or congo/ or cote d'ivoire/ or croatia/ or cuba/ or "democratic republic of the congo"/ or cyprus/ or djibouti/ or dominica/ or dominican republic/ or ecuador/ or egypt/ or el salvador/ or equatorial guinea/ or eritrea/ or eswatini/ or ethiopia/ or fiji/ or gabon/ or gambia/ or "georgia (republic)"/ or ghana/ or grenada/ or guatemala/ or guinea/ or guinea-bissau/ or guyana/ or haiti/ or honduras/ or independent state of samoa/ or exp india/ or indian ocean islands/ or indochina/ or indonesia/ or iran/ or iraq/ or jamaica/ or jordan/ or kazakhstan/ or kenya/ or kosovo/ or kuwait/ or kyrgyzstan/ or laos/ or lebanon/ or liechtenstein/ or lesotho/ or liberia/ or libya/ or madagascar/ or malaysia/ or malawi/ or mali/ or malta/ or mauritania/ or mauritius/ or mekong valley/ or melanesia/ or micronesia/ or monaco/ or mongolia/ or montenegro/ or morocco/ or mozambique/ or myanmar/ or namibia/ or nepal/ or nicaragua/ or niger/ or nigeria/ or oman/ or pakistan/ or palau/ or exp panama/ or papua new guinea/ or paraguay/ or peru/ or philippines/ or qatar/ or "republic of belarus"/ or "republic of north macedonia"/ or romania/ or exp russia/ or rwanda/ or "saint kitts and nevis"/ or saint lucia/ or "saint vincent and the grenadines"/ or "sao tome and principe"/ or saudi arabia/ or serbia/ or sierra leone/ or senegal/ or seychelles/ or singapore/ or somalia/ or south africa/ or south sudan/ or sri lanka/ or sudan/ or suriname/ or syria/ or taiwan/ or tajikistan/ or tanzania/ or thailand/ or timor-leste/ or togo/ or tonga/ or "trinidad and tobago"/ or tunisia/ or turkmenistan/ or uganda/ or ukraine/ or united arab emirates/ or uruguay/ or uzbekistan/ or vanuatu/ or venezuela/ or vietnam/ or west indies/ or yemen/ or zambia/ or zimbabwe/ (1211218)
43 "organisation for economic co-operation and development"/ (422)
44 australasia/ or exp australia/ or austria/ or baltic states/ or belgium/ or exp canada/ or chile/ or colombia/ or costa rica/ or czech republic/ or exp denmark/ or estonia/ or europe/ or finland/ or exp france/ or exp germany/ or greece/ or hungary/ or iceland/ or ireland/ or israel/ or exp italy/ or exp japan/ or korea/ or latvia/ or lithuania/ or luxembourg/ or mexico/ or netherlands/ or new zealand/ or north america/ or exp norway/ or poland/ or portugal/ or exp "republic of korea"/ or "scandinavian and nordic countries"/ or slovakia/ or slovenia/ or spain/ or sweden/ or switzerland/ or turkey/ or exp united kingdom/ or exp united states/ (3398274)
45 european union/ (17167)
46 developed countries/ (21123)
47 or/43-46 (3413612)
48 42 not 47 (1124098)
49 41 not 48 (172)
50 Observational Studies as Topic/ (7666)
51 Observational Study/ (124520)
52 Epidemiologic Studies/ (9057)
53 exp Case-Control Studies/ (1303808)
54 exp Cohort Studies/ (2323714)
55 Comparative Study.pt. (1910995)
56 case control$.tw. (146050)
57 (cohort adj (study or studies)).tw. (267584)
58 cohort analy$.tw. (10137)
59 (follow up adj (study or studies)).tw. (53272)
60 (observational adj (study or studies)).tw. (137572)
61 longitudinal.tw. (288748)
62 prospective.tw. (652933)
63 retrospective.tw. (652164)
64 or/50-63 (4756745)

65 randomized controlled trial.pt. (563604)
66 randomi?ed.mp. (993607)
67 placebo.mp. (234424)
68 or/65-67 (1055962)
69 (MEDLINE or pubmed).tw. (271356)
70 systematic review.tw. (218400)
71 systematic review.pt. (190800)
72 meta-analysis.pt. (156706)
73 intervention$.ti. (177404)
74 or/69-73 (584852)
75 22 and (64 or 68 or 74) (190)

Database name: PsycInfo

1 exp *obesity/ or Obesity Management/ or overweight/ or *adiposity/ (22071)
2 (obes* or overweight* or preobes* or adiposit*).ti,ab. (45231)
3 or/1-2 (46012)
4 Weight Prejudice/ or social stigma/ or self concept/ or exp Shame/ or bullying/ or Discrimination, Psychological/ or Social Discrimination/ (65361)
5 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (594)
6 (internal* adj1 weight* adj1 bias).ti,ab. (64)
7 or/4-6 (65707)
8 3 and 7 (1082)
9 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discrimat*)).ti,ab. (836)
10 8 or 9 (1489)
11 exp psychotherapy/ or exp cognitive behavioral therapy/ or Cognitive Dissonance/ or exp Mindfulness/ or counseling/ (201684)
12 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (261040)
13 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (197336)
14 or/11-13 (485414)
15 10 and 14 (145)
16 (2007* or 2008* or 2009* or 201* or 202*).up. (2764143)
17 15 and 16 (130)
18 animals/ not humans/ (4459)
19 17 not 18 (130)

Cost-effectiveness searches

Main search – Databases

Database	Date searched	Database Platform	Database segment or version	No. of results downloaded
Embase	12/04/2022	Ovid	1974 to 2022 April 11	25
Econlit	12/04/2022	Epistemonikos	1886 to April 07, 2022	0
MEDLINE All	12/04/2022	Ovid	1946 to April 11, 2022	8
NHS EED	12/04/2022	CRD York	n/a	0
HTA	12/04/2022	CRD York	n/a	0

Re-run search – Databases

Re-runs were not carried out for this review question, due to the approach taken by the guideline to publish some questions before others.

Search strategy history

Database name: CRD YORK NHS EED & HTA

1	MeSH DESCRIPTOR obesity EXPLODE ALL TREES	1025
2	MeSH DESCRIPTOR Obesity Management	0
3	MeSH DESCRIPTOR overweight	172
4	MeSH DESCRIPTOR adiposity	20
5	(obes* or overweight* or preobes* or adiposit*)	1629
6	#1 OR #2 OR #3 OR #4 OR #5	1634
7	MeSH DESCRIPTOR Weight Prejudice	0
8	MeSH DESCRIPTOR social stigma	8
9	MeSH DESCRIPTOR self concept	62
10	MeSH DESCRIPTOR Shame EXPLODE ALL TREES	1
11	MeSH DESCRIPTOR bullying	3
12	MeSH DESCRIPTOR Discrimination, Psychological	0
13	MeSH DESCRIPTOR Social Discrimination	1
14	(body* adj2 (shame* or shaming* or uneas*))	0
15	(internal* adj1 weight* adj1 bias)	0
16	#7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15	74
17	#6 AND #16	4
18	((weight* or obes* or overweight* or preobes* or adiposit*) ADJ2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*))	0
19	#17 OR #18	4
20	MeSH DESCRIPTOR psychotherapy EXPLODE ALL TREES	1629
21	MeSH DESCRIPTOR cognitive behavioral therapy EXPLODE ALL TREES	28
22	MeSH DESCRIPTOR Cognitive Dissonance	1
23	MeSH DESCRIPTOR Mindfulness EXPLODE ALL TREES	25
24	MeSH DESCRIPTOR counseling	403
25	((psycho* or cognitiv* or behavior* or behaviour* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*))	5978
26	(psychotherap* or mindful* or CBT or counsel*)	3027
27	(acceptance and commitment therap*)	15
28	#20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27	7527
29	(#19 and #28) IN NHSEED, HTA WHERE LPD FROM 01/01/2007 TO 12/04/2022	0

Database name: Econlit

1 (obes* or overweight* or preobes* or adiposit*).ti,ab. (2467)
2 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (0)
3 (internal* adj1 weight* adj1 bias).ti,ab. (0)
4 or/2-3 (0)
5 1 and 4 (0)
6 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)).ti,ab. (25)
7 5 or 6 (25)
8 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (6255)
9 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (1595)
10 or/8-9 (7767)
11 7 and 10 (0)
12 limit 11 to yr="2007 -Current"

Database name: Embase

1 exp *obesity/ or Obesity Management/ (268171)
2 (obes* or overweight* or preobes* or adiposit*).ti,ab. (546560)
3 or/1-2 (592235)
4 weight bias/ or social stigma/ or self concept/ or exp shame/ or bullying/ or perceptive discrimination/ or social discrimination/ (141223)
5 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (444)
6 (internal* adj1 weight* adj1 bias).ti,ab. (70)
7 or/4-6 (141446)
8 3 and 7 (4736)
9 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)).ti,ab. (1727)
10 8 or 9 (6024)
11 exp psychotherapy/ or exp cognitive behavioral therapy/ or cognition/ or exp mindfulness/ or counseling/ (593696)
12 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (719088)
13 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (271090)
14 or/11-13 (1316045)
15 10 and 14 (1281)
16 limit 15 to dc=20070101-20221231 (1138)
17 nonhuman/ not human/ (4962717)
18 16 not 17 (1135)
19 (conference abstract or conference paper or conference proceeding or "conference review").pt. (5147615)
20 18 not 19 (853)

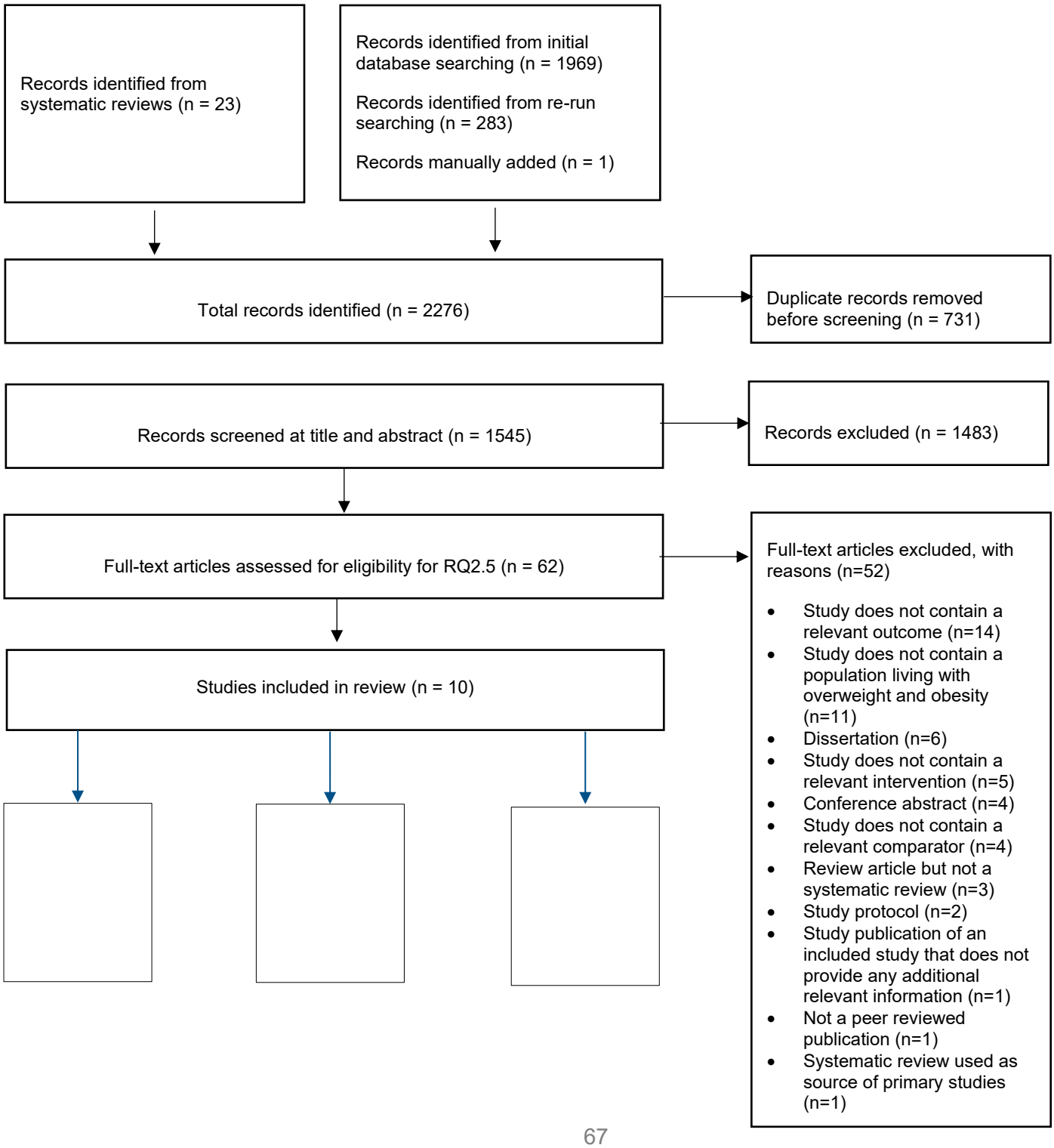
21 cost utility analysis/ (11025)
22 quality adjusted life year/ (31208)
23 cost*.ti. (178470)
24 (cost* adj2 utilit*).tw. (11225)
25 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (343173)
26 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (58369)
27 (qualit* adj2 adjust* adj2 life*).tw. (23910)
28 QALY*.tw. (23423)
29 (incremental* adj2 cost*).tw. (25163)
30 ICER.tw. (11086)
31 utilities.tw. (13408)
32 markov*.tw. (35371)
33 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (64792)
34 ((utility or effective*) adj2 analys*).tw. (33206)
35 (willing* adj2 pay*).tw. (12445)
36 (EQ5D* or EQ-5D*).tw. (21735)
37 ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)).tw. (4180)
38 (european* adj2 quality adj3 ("5" or five)).tw. (788)
39 or/21-38 (565987)
40 20 and 39 (25)

Database name: Medline ALL
1 exp *obesity/ or Obesity Management/ or overweight/ or *adiposity/ (193492)
2 (obes* or overweight* or preobes* or adiposit*).ti,ab. (372404)
3 or/1-2 (399612)
4 Weight Prejudice/ or social stigma/ or self concept/ or exp Shame/ or bullying/pc or Discrimination, Psychological/ or Social Discrimination/ (93525)
5 (body* adj2 (shame* or shaming* or uneas*)).ti,ab. (339)
6 (internal* adj1 weight* adj1 bias).ti,ab. (68)
7 or/4-6 (93735)
8 3 and 7 (2760)
9 ((weight* or obes* or overweight* or preobes* or adiposit*) adj2 (stigma* or self-stigma* or destigma* or prejudice* or shame* or shaming* or bully* or discriminat*)).ti,ab. (1444)
10 8 or 9 (3807)
11 exp psychotherapy/ or exp cognitive behavioral therapy/ or Cognitive Dissonance/ or exp Mindfulness/ or counseling/ (245512)
12 ((psycho* or cognitiv* or behavio?r* or lifestyle* or acceptance* or compassion* or mindful* or group*) adj2 (therap* or interven* or dissonan* or treat* or strateg* or approach* or assess*)).ti,ab. (501928)
13 (psychotherap* or "acceptance and commitment therap*" or mindful* or CBT or counsel*).ti,ab. (190540)
14 or/11-13 (795385)
15 10 and 14 (481)
16 limit 15 to ed=20070101-20221231 (337)
17 limit 15 to dt=20070101-20221231 (352)

18 16 or 17 (355)
19 animals/ not humans/ (4955959)
20 18 not 19 (355)
21 limit 20 to (letter or historical article or comment or editorial or news or case reports) (5)
22 20 not 21 (350)
23 Cost-Benefit Analysis/ (89130)
24 Quality-Adjusted Life Years/ (14592)
25 Markov Chains/ (15665)
26 exp Models, Economic/ (16095)
27 cost*.ti. (134006)
28 (cost* adj2 utilit*).tw. (6830)
29 (cost* adj2 (effective* or assess* or evaluat* or analys* or model* or benefit* or threshold* or quality or expens* or saving* or reduc*)).tw. (246342)
30 (economic* adj2 (evaluat* or assess* or analys* or model* or outcome* or benefit* or threshold* or expens* or saving* or reduc*)).tw. (41141)
31 (qualit* adj2 adjust* adj2 life*).tw. (15705)
32 QALY*.tw. (12632)
33 (incremental* adj2 cost*).tw. (15278)
34 ICER.tw. (5050)
35 utilities.tw. (8306)
36 markov*.tw. (28369)
37 (dollar* or USD or cents or pound or pounds or GBP or sterling* or pence or euro or euros or yen or JPY).tw. (49632)
38 ((utility or effective*) adj2 analys*).tw. (22158)
39 (willing* adj2 pay*).tw. (8263)
40 (EQ5D* or EQ-5D*).tw. (11139)
41 ((euroqol or euro-qol or euroquol or euro-quol or eurocol or euro-col) adj3 ("5" or five)).tw. (3088)
42 (european* adj2 quality adj3 ("5" or five)).tw. (567)
43 or/23-42 (452076)
44 22 and 43 (8)

Appendix C – Effectiveness and qualitative evidence study selection

The flowchart reported below includes the study selection for both effectiveness and qualitative evidence retrieved from two separate search strategies. We decided to include a single flowchart because some effectiveness evidence was identified through the search strategy for qualitative evidence.



Appendix D – Effectiveness and qualitative evidence tables

Systematic reviews

Carter 2021a

Bibliographic Reference	Carter, A.; Gilbert, P.; Kirby, J.N.; A systematic review of compassion-based interventions for individuals struggling with body weight shame; Psychology & health; 2021; 1-31

Study Characteristics

Study design	Systematic review
Study details	**Dates searched** From inception to19th of December 2019. **Databases searched** PsycNET, Pubmed, Web of science, CINAHL, Scopus, ProQuest, Social Science Database **Sources of funding** No information about the funding.
Inclusion criteria	**Population** Adults aged 18+ years, male and/or female.

	Healthy BMI of 18.50-24.99 kg/m2 or overweight to obese I, II, III BMI 25+ kg/m2. Healthy participants with no diagnosed health conditions. Those with distorted eating behaviors that did not meet clinical criteria. **Types of studies** Randomised controlled trials, quasi-experimental trials, pre-post evaluations. Peer-reviewed publications, unpublished dissertations or manuscripts.
Exclusion criteria	**Population** < 18 years Underweight BMI of < 18.5 kg/m2 Clinically diagnosed eating disorders (e.g., bulimia nervosa), any condition or disease that results in weight change (e.g., HIV, cancer) Samples recruiting clinical populations (e.g., depression) **Types of studies** Any type of study without a specific intervention with outcome data, such as qualitative studies, opinion pieces, editorials, reviews or meta-analyses, cross-sectional studies or case-control studies.
Intervention(s)	**Intervention**

	Compassion-based intervention **Control** Waitlist control or treatment-as-usual Active control
Outcome(s)	Body weight shame Compassion (e.g., self-compassion, compassion to others, fears of compassion) Eating attitudes and behaviour Mental health Physical exercise BMI and weight
Number of studies included in the systematic review	25 studies (23 papers)
Studies from the systematic review that are relevant for use in the current review	Palmeira 2017a Carter 2021

Studies from the systematic review that are not relevant for use in the current review	Joplin 2015, Pineau 2014, Seo 2015, Stuart 2015 and Stuart 2009 were not included because were dissertations. Albertson 2015 was not included because the participants were female, over 18 with Internet access (no indication on participants' BMI). Braun 2016 (Study I) was not included because the population of the review was not people living with overweight and obesity. Braun 2016 (Study II) was not included because the outcome was self-reported psychosocial process variables and % of self-reported total body weight loss (%TBWL). Braun 2012 was not included because the outcome was nutrition behaviours, self-compassion, mindfulness, stress management, spiritual growth, and self-report weight loss at 1 year. Duarte 2019 was not included because the outcome was eating behaviour, self-evaluation, and weight-related outcomes. Forbes 2020 was not included because the study was single arm (no control group). Horan and Taylor 2018 was not included because the outcome was health behaviour engagement. Mantzios and Wilson 2015 and Mantzios and Wilson 2014 (Study III) were not included because the outcome was weight loss. Moffitt 2018 was not included because the population was female undergraduate students with a mean body mass index (BMI) of 23.44. Palmeira 2017b was not included because the study was single arm (no control group). Stern and Engeln 2018 (Study I, Study II, and Study III) was not included because the outcome was body satisfaction. Toole and Craighead 2016 was not included because the population was women with a mean body mass index (BMI) of 22.20. Voelkeret 2019 was not included because the population was female collegiate athletes.

	Vimalakanthan 2018 was not included because the population was females with mean body mass index (BMI; kg/m2) of 21.7. Ziemer 2018 was not included because the outcome was positive body image.

Section	Question	Answer
Overall study ratings	Overall risk of bias	Moderate *(The studies were assessed using the Downs and Black tool, which is not the recommended tool for assessing the methodological quality. It is not reported if the quality assessment was done in duplicate.)*
	Applicability as a source of data	Partially applicable *(Studies without a control were included as well as studies with a population (i.e., BMI< 25) and outcomes (i.e., body image or body loss) not relevant for our review.)*

Griffiths 2018

Bibliographic Reference Griffiths, C.; Williamson, H.; Zucchelli, F.; Paraskeva, N.; Moss, T.; A Systematic Review of the Effectiveness of Acceptance and Commitment Therapy (ACT) for Body Image Dissatisfaction and Weight Self-Stigma in Adults; Journal of Contemporary Psychotherapy; 2018; vol. 48 (no. 4); 189-204

Study Characteristics

Study design	Systematic review
Study details	**Dates searched** From inception to October 2017

	Databases searched Amed, Cinahl Plus, Medline, Psycarticles, PsycINFO, Web of Science, the Cochrane Library, Assia, British Humanities Index, IBSS, PILOTS and Social Services Abstracts **Sources of funding** This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.
Inclusion criteria	**Population** Adult participants (over 18 years old) who had received an acceptance and commitment therapy (ACT) intervention, whether individually or in a group, via single or multiple sessions, provided by a clinician or researcher in a hospital, community, or university setting. **Types of studies** Studies with and without a control were included to ensure the search was inclusive of all relevant literature. Studies had to include a quantitative outcome measure that assessed body image dissatisfaction (BID) or weight self-stigma (either post-intervention or longer follow-up). Studies had to be published in English and could be published or unpublished.
Exclusion criteria	**Population** Participants diagnosed with eating disorders, namely anorexia nervosa, bulimia nervosa or binge eating disorder were excluded. **Types of studies** Studies targeting participants diagnosed with eating disorders, namely anorexia nervosa, bulimia nervosa or binge eating disorder, were excluded.
Intervention(s)	**Intervention**

	Acceptance and commitment therapy (ACT) intervention, whether individually or in a group, via single or multiple sessions, provided by a clinician or researcher in a hospital, community, or university setting. **Control** No control Waiting list control Usual care
Outcome(s)	Body image dissatisfaction Weight self-stigma
Number of studies included in the systematic review	6 studies (8 papers)
Studies from the systematic review that are relevant for use in the current review	Lillis 2009 Palmeira 2017a
Studies from the systematic review that are not relevant for use in the current review	Fletcher 2011 was not included because it was a dissertation. Levin 2017 was not included because it was a pilot study of an already included study. Pearson 2012 was not included because the outcome was eating attitudes (the EAT), body anxiety (PASTAS), and preoccupation with eating, weight, and shape (PEWS).

	Weineland 2012a and Weineland 2012b were not included because the outcomes were emotional eating, body dissatisfaction and quality of life. Palmeira 2017b was not included because the study was single arm (no control group).

Section	Question	Answer
Overall study ratings	Overall risk of bias	Low
	Applicability as a source of data	Partially applicable *(Studies without a control were included as well as studies with a population (i.e., bariatric surgery patients) not relevant for our review.)*

Primary studies from within the systematic reviews

The characteristics of the primary studies are detailed in the 2 systematic reviews above, but risk of bias has been assessed separately using the Cochrane Risk of Bias tools (RoB 2.0) for normal RCTs and CASP checklist for the mixed methods trial, which was only included for the qualitative evidence. The methods used to assess risk of bias are reported in the methods document (see Appendix B).

Carter 2021b

Bibliographic Reference	Carter A, Gilbert P, Kirby JN. Compassion-focused therapy for body weight shame: A mixed methods pilot trial. Clin Psychol Psychother. 2021 Jan;28(1):93-108. doi: 10.1002/cpp.2488. Epub 2020 Jun 22. PMID: 32515067.

Study details

Study type	Mixed methods trial
Evidence table available in an included systematic review	The evidence table for this study can be found in the Carter 2021a systematic review.

Section	Question	Answer
Overall risk of bias and relevance	Overall risk of bias	Moderate *(The relationship between researcher and participants and ethical considerations were not considered.)*
Overall risk of bias and relevance	Relevance	Relevant *(The study is relevant for evaluating the acceptability of the intervention. The intervention aimed to address weight shame, which was considered part of weight self-stigma or weight bias internalisation.)*

Lillis 2009

Bibliographic Reference	Lillis, J., Hayes, S. C., Bunting, K., & Masuda, A. (2009). Teaching acceptance and mindfulness to improve the lives of the obese: A preliminary test of a theoretical model. Annals of Behavioral Medicine, 37, 58–69.

Study details

Study type	Randomised controlled trial (RCT)
Evidence table available in an included systematic review	The evidence table for this study can be found in the Griffiths 2018 systematic review.

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(The allocation sequence was not adequately concealed. Moreover, it is not clear if participants were aware of intervention groups during the trial. Finally, inappropriate analyses were conducted (per protocol analyses).)*
	Overall Directness	Directly applicable

Palmeira 2017a

Bibliographic Reference	Palmeira, L., Pinto-Gouveia, J., & Cunha, M. (2017a). Exploring the efficacy of an acceptance, mindfulness & compassionate-based group intervention for women struggling with their weight (Kg-Free): A randomized controlled trial. Appetite, 112, 107–116

Study details

Study type	Randomised controlled trial (RCT)
Evidence table available in an included systematic review	The evidence table for this study can be found in the Carter 2021a and Griffiths 2018 systematic reviews.

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(Participants were aware of intervention groups during the trial. It is likely that assessment of the outcome was influenced by knowledge of the intervention received. However, data were analysed in accordance with a pre-specified plan.)*
	Overall Directness	Directly applicable

Primary studies from search strategies

Braun, 2022

Bibliographic Reference	Braun, Tosca D; Olson, Kayloni; Panza, Emily; Lillis, Jason; Schumacher, Leah; Abrantes, Ana M; Kunicki, Zachary; Unick, Jessica L; Internalized weight stigma in women with class III obesity: A randomized controlled trial of a virtual lifestyle modification intervention followed by a mindful self-compassion intervention.; Obesity science & practice; 2022; vol. 8 (no. 6); 816-827

Study details

Trial registration number and/or trial name	Not reported
Study type	Randomised controlled trial (RCT)
Study location	USA
Study setting	Unclear
Study dates	Unclear
Sources of funding	This work was supported by training grants to Dr. Tosca Braun (NCCIH, U01 AT010863-02S1; NHLBI, T32 HL076134), Dr. Leah Schumacher (NHLBI, T32 HL076134), Dr. KayLoni Olson (NIDDK, K23 DK124578), and Dr. Emily Panza (NIMHD, K23 MD015092).

Inclusion criteria	Participants were 18 to 65 years BMI between 40 and 55 kg.m2 Reported elevated internalised weight stigma (score ≥3 on the Weight Bias International Scale)
Exclusion criteria	Pregnant women History of bariatric surgery or recent weight loss (≥15lbs within past 6 months) Presence of conditions that would limit weight loss or exercise Present or recent (< 1 year) participation in a weight loss program Use of weight loss medication Hospitalisation for a psychiatric condition

Intervention(s)	**Mindful self-compassion intervention (MSC)** Before starting the intervention, participants took part in a 4 month lifestyle modification intervention that as modelled after the Look AHEAD trial. This had a mix of individual and group contact and was designed to produce a 1-2 lb weight loss per week. Participants were given a calorie intake goal of 1500-2000 kcal/day (depending upon baseline weight) and were instructed to increase moderate-to-vigorous intensity physical activity, gradually progressing to 200 min/week. Following the 4-month program, participants were encouraged to continue the dietary, activity, and behavioural guidelines taught in the program, although these data were no longer reported to the intervention team. The MSC was a 8 week programme and was a once-weekly protocol designed to increase affect regulation and self-compassion skills and improve psychological well-being. MSC was delivered in an adapted format comprising of eight, 2 hour sessions focused on guided meditations and reflections, psychoeducation, experiential exercises, group discussion, and recommended daily home practice meditations. Session themes included Discovering Mindful Self-Compassion, Practicing Mindfulness, Practicing Loving-Kindness, Discovering Your Compassionate Voice, Living Deeply, Meeting Difficult Emotions, Exploring Challenging Relationships, and Embracing Your Life.
Comparator	Before starting the control sessions, participants took part in the same 4 month lifestyle modification intervention as the MSC group. Participants randomised to the control group then received 8 weeks of nutrition and cooking classes. These weekly 1.5hour group sessions were led by a registered dietician with topics including nutrition (e.g. fruits and vegetables, grains, fluids, antioxidants, protein, sodium), culinary education (e.g. safe food handling, knife skills) and healthy recipes. This group served as a contact-matched control so they were provided with content related to weight loss but which was unlikely to target the constructs targeted by MSC.
Outcome measures	Weight self-stigma Self-compassion

	Internalized weight bias Intuitive eating Height and weight Internalised shame Dietary disinhibition
Number of participants	N = 28 at baseline (n = 14 intervention; n = 14 control). After completing the Lifestyle Management phase of the intervention, n = 13 were randomised to MSC and n = 12 were randomised to control.
Duration of follow-up	Assessments occurred at 6 months from baseline (immediately after completion of MSC or control intervention) and 9 months from baseline (3 months no-contact follow-up period).
Loss to follow-up	One control group participant was lost to follow up after completing the intervention.
Methods of analysis	Per protocol

Characteristics

Study-level characteristics

Characteristic	Study (N = 28)
Gender Female No of events	n = 28 ; % = 100
White No of events	% = 92.9
Non-Hispanic No of events	% = 89.3

Arm-level characteristics

Characteristic	Mindful self-compassion training (N = 14)	Cooking classes (Control) (N = 14)
Age Mean (SD)	48.4 (11.3)	49.1 (9.7)
BMI Mean (SD)	46.6 (3.6)	46.6 (3.9)

Characteristic	Mindful self-compassion training (N = 14)	Cooking classes (Control) (N = 14)
Weight (kg) Mean (SD)	124.8 (13.2)	121.1 (12.5)

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(No information on allocation sequence or allocation concealment. No information on appropriate analysis used to estimate the effect of assignment to intervention.)*
	Overall Directness	Directly applicable

Levin 2020*

***Article first published online: December 8, 2020; Issue published: June, 2021**

Bibliographic Reference	Levin, M.E.; Petersen, J.M.; Durward, C.; Bingeman, B.; Davis, E.; Nelson, C.; Cromwell, S.; A randomized controlled trial of online acceptance and commitment therapy to improve diet and physical activity among adults who are overweight/obese; Translational Behavioral Medicine; 2021; vol. 11 (no. 6); 1216-1225

Study details

Trial registration number and/or trial name	NCT03932994
Study location	United States
Study setting	Participant's' home
Study dates	May 2019-December 2019
Sources of funding	This study was funded by the Utah State University Extension Grants Program.
Inclusion criteria	Self-reported a BMI of 25 and over Being 18 or older Being a fluent English speaker Interest participating in an online program to improve eating and physical activity Regular access to the internet Comfort with using the internet and navigating websites Living in Utah or neighbouring counties Have not participated in other web/mobile or self-help book studies from the USU CBS lab.
Intervention(s)	ACT on Health: This intervention consists of an online canvas course based on Acceptance and Commitment Therapy, focused on increasing healthy diet and physical activity and addressing barriers to change. The intervention also consists of weekly phone coaching calls.

Comparator	Waitlist
Outcome measures	Weight self-stigma Physical activity Eating behaviors Emotional eating Uncontrolled eating Healthy eating Cognitive restraint Mental Health Psychological inflexibility
Number of participants	79
Duration of follow-up	8 weeks The intervention group completed a pre and post intervention survey and an 8-week follow-up survey. Differently, the control group completed only a pre and post intervention survey. Since a follow-up survey was not completed by the control group, we reported data for pre and post assessment for both groups.
Loss to follow-up	From 2 to 9 depending on the comparison
Methods of analysis	Per protocol

Characteristics

Arm-level characteristics

Characteristic	ACT (N = 39)	Waitlist (N = 40)
Female Percentage	82.1	82.5
Male Percentage	17.9	17.5
Age Mean (SD)	38.05 (9.4)	41.03 (14.3)
BMI Mean (SD)	34.01 (6.5)	33.48 (4.9)
White Percentage	89.7	95.0
Asian Percentage	2.6	0
Black Percentage	2.6	7.5

Characteristic	ACT (N = 39)	Waitlist (N = 40)
Native Hawaiian or other Pacific Islander Percentage	5.1	0

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(It is not clear if participants were aware of intervention groups during the trial. Moreover, it is not clear if the assessment of the outcome was influenced by knowledge of the intervention received. Generally, the reporting of the study was unclear. Finally, inappropriate analysis (per protocol analysis) was used to estimate the effect of assignment to intervention)*
	Overall Directness	Partially applicable *(The main aim of the intervention was to improve diet and physical activity and not reduce weight stigma. However, one of the secondary outcomes was weight stigma.)*

Pearl 2020a, Pearl 2020b

Bibliographic Reference Pearl, R.L.; Wadden, T.A.; Bach, C.; Gruber, K.; Leonard, S.; Walsh, O.A.; Tronieri, J.S.; Berkowitz, R.I.; Effects of a Cognitive-Behavioral Intervention Targeting Weight Stigma: A Randomized Controlled Trial; Journal of Consulting and Clinical Psychology; 2020

Study details

Other publications associated with this study included in review	(Follow up study) Pearl RL, Wadden TA, Bach C, Tronieri JS, Berkowitz RI. Six-Month Follow-up from a Randomized Controlled Trial of the Weight BIAS Program. Obesity (Silver Spring). 2020 Oct;28(10):1878-1888. doi: 10.1002/oby.22931. Epub 2020 Aug 28. PMID: 32860344; PMCID: PMC7511433.
Trial registration number and/or trial name	NCT03572218
Study type	Randomised controlled trial (RCT)
Study location	The study location is not clearly stated. It is likely United Stated.
Study setting	The study setting is not clearly reported.
Study dates	April 10, 2018 (study start date) -October 18, 2019 (study completion date)
Sources of funding	This study was funded by WW (formerly Weight Watchers). RLP is supported by a K23 Mentored Patient-Oriented Research Career Development Award from the National Heart, Lung, and Blood Institute/NIH (#K23HL140176). JST is supported by a K23 Mentored Patient-Oriented Research Career Development Award from the National Institute of Diabetes and Digestive and Kidney Disease/NIH (#K23DK116935).
Inclusion criteria	Men and women Ages 18–65 years old Seeking weight loss Had obesity (body mass index [BMI] ≥ 30kg/m2) History of experiencing weight bias (e.g., teasing/bullying, discrimination, or other unfair treatment due to weight) Showed elevated levels of WBI, as indicated by a score of 4.0 or greater on the Weight Bias Internalization Scale

	Confirmed in an in-person interview, conducted by a psychologist, that their weight negatively affected how they felt about themselves
Exclusion criteria	Type 1 or 2 diabetes Uncontrolled hypertension (blood pressure ≥160/100 mm hg) A cardiovascular event (e.g., stroke, myocardial infarction) in the past year Any major active kidney, liver, cardiovascular, or cerebrovascular disease Loss of ≥5% of initial weight in the past 6 months Use of medications that significantly affect weight History of bariatric surgery Women who were nursing, pregnant, or planning to become pregnant Severe symptoms of mood (beck depression inventory-ii score ≥29, with clinician discretion), anxiety, or binge eating disorder (eight or more binge episodes per week), or any severity of bulimia nervosa or thought or substance use disorder Current, active suicidal ideation and/or a suicide attempt within the past year Participation in individual or group psychotherapy in the past 3 months, with the exception of participants receiving counseling for concerns unrelated to mood, self-esteem, or weight (e.g., Career counseling or caregiver support) Taking anti-depressant medication that did not affect weight if the dose had not been stable for at least 3 months
Intervention(s)	-same BWL program described below (without the recipe discussion), combined with a stigma-reduction intervention. In each session, following 60 minutes of BWL, 30 minutes were devoted to a stigma-reduction intervention tested in a previous open-label pilot study (Pearl, Hopkins et al., 2018). Following 60 minutes of BWL treatment, the BIAS intervention will devote 30 minutes to stigma-related content. Session topics will include: psychoeducation about weight and weight stigma; challenging myths and cognitive distortions related to weight; strategies for

	coping with instances of stigma; and increasing empowerment and body esteem. The effects of weight stigma on health behaviors will be discussed, and sessions will focus specifically on helping participants overcome stigma-related barriers to weight management. In the every-other-week and monthly weight loss maintenance sessions from weeks 13-26, strategies for coping with weight stigma and challenging internalized beliefs will be reviewed, and participants will be encouraged to use these strategies in the context of weight management.
Comparator	-60 minutes of BWL treatment, based on the Diabetes Prevention Program and LEARN Program The BWL sessions will be based on the Diabetes Prevention Program (DPP) manual. A diet of 1200-1499 calories per day will be prescribed for participants < 250 lb, and 1500-1800 for those ≥ 250 lb. Participants will be instructed to eat a balanced deficit diet. Session topics during the first 12 weeks will include self-monitoring, stimulus control, slowing eating, social support, cognitive restructuring, portion sizes, and goal setting. Those during weeks 13-26 will focus on continued self-monitoring and skills required for weight loss maintenance and relapse prevention. Physical activity will be prescribed at a level consistent with data showing that >250 min/wk is associated with improved long-term weight loss. BWL sessions will last 60 minutes.
Outcome measures	Weight Bias Internalization Weight Self-Stigma Questionnaire Weight Bias Measured using the Fat Phobia scale Weight-Related Quality of Life Perceived Stress Depression Exercise Self-Efficacy Eating Self-Efficacy Percent Weight Change

	Waist Circumference Blood Pressure Anxiety Body esteem
Number of participants	72
Duration of follow-up	52 weeks
Loss to follow-up	11
Methods of analysis	Intention to treat analysis

Characteristics

Arm-level characteristics

Characteristic	**BWL+BIAS (N = 36)**	**BWL (N = 36)**
Female Percentage	88.9	80.6
Male Percentage	11.1	19.4

Characteristic	BWL+BIAS (N = 36)	BWL (N = 36)
Age Mean (SD)	47.7 (11.4)	46.6 (11.8)
BMI Mean (SD)	40.1 (6.5)	38.4 (5.6)
White Percentage	19.4	38.9
Black Percentage	72.2	61.1
Asian Percentage	5.6	0.0
Multiracial Percentage	2.8	0.0

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(Participants were aware of intervention groups during the trial. It is likely that assessment of the outcome was influenced by knowledge of the intervention received. However, data were analysed in accordance with a pre-specified plan.)*

Section	Question	Answer
	Overall Directness	Directly applicable

Potts 2020*

***Article first published online: November 30, 2020; Issue published: January 1, 2022**

Bibliographic Reference	Potts, S.; Krafft, J.; Levin, M.E.; A Pilot Randomized Controlled Trial of Acceptance and Commitment Therapy Guided Self-Help for Overweight and Obese Adults High in Weight Self-Stigma; Behavior modification; 2022; vol. 46 (no. 1); 178-201

Study details

Other publications associated with this study	Levin, M. E., Potts, S., Haeger, J., & Lillis, J. (2017). Delivering acceptance and commitment therapy for weight self-stigma through guided self-help: Results from an open pilot trial. Cognitive and Behavioral Practice (Online first).
Trial registration number and/or trial name	Not reported
Study type	Pilot Randomised Controlled Trial
Study location	United States
Study setting	People residing in the United States. Setting was not clear.
Study dates	Not reported

Sources of funding	Not reported
Inclusion criteria	Being at least 18 and no more than 64 years of age Residing in the United States Having a BMI of 27.5 or higher Having a score of 36 or higher Indicating problematic weight self-stigma (WSSQ; Lillis et al., 2010).
Exclusion criteria	Pregnant women People with chest pain People with dizziness People with cardiovascular disease People with serious psychological diagnosis that affected their functioning
Intervention(s)	1) Guided self-help with email prompts (GSH-E) -To complete a baseline self-report survey -To read an assigned book (i.e., The diet trap - it teaches a series of skills from ACT) over the following 8 weeks -To complete the journaling activities contained within the book and weekly online Qualtrics quiz for each chapter they finished -To receive an email manually sent by the first author, which reminded them of the tasks to complete that week (i.e., reading, journaling, and quiz). -To complete an online posttreatment self-report survey 8 weeks after baseline

	2) Guided self-help with phone coaching (GSH-P) -To complete a baseline self-report survey -To read an assigned book (i.e., The diet trap - it teaches a series of skills from ACT) over the following 8 weeks -To complete the journaling activities contained within the book and weekly online Qualtrics quiz for each chapter they finished -To receive the same email prompts as the GSH-E condition, but also received weekly phone coaching sessions. -Online posttreatment self-report survey 8 weeks after baseline
Comparator	Waitlist condition -To complete a baseline self-report survey -To complete an online posttreatment self-report survey 8 weeks after baseline -After the posttreatment survey, they received access to the GSH-P intervention
Outcome measures	Weight self-stigma Physical activity Eating behaviors BMI
Number of participants	55
Duration of follow-up	8 weeks (it refers to the post treatment assessment)
Loss to follow-up	18

Methods of analysis	Intention to treatment

Characteristics

Arm-level characteristics

Characteristic	**GSH-P (N = 17)**	**GSH-E (N = 20)**	**Waitlist (N = 18)**
Female Percentage	82.4%	75.0%	88.9%
Male Percentage	17.6%	25.0%	11.1%
Age (Mean (SD)) Mean (SD)	37.44 (12.52)	35.85 (20)	42.83 (11.55)
BMI (Mean (SD)) Mean (SD)	36.68 (6.77)	36.62 (6.72)	37.76 (6.33)
White Percentage	100%	90.0%	94.4%
Black Percentage	0.0%	5.0%	0.0%

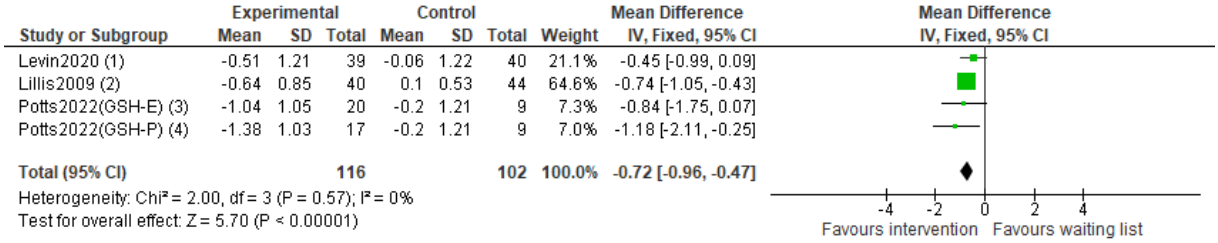
Characteristic	GSH-P (N = 17)	GSH-E (N = 20)	Waitlist (N = 18)
Other Percentage	0.0%	5.0%	5.6%

Section	Question	Answer
Overall bias and Directness	Risk of bias judgement	Moderate *(It is not clear if participants were aware of intervention groups during the trial. Moreover, it is not clear if the assessment of the outcome was influenced by knowledge of the intervention received.)*
Overall bias and Directness	Overall Directness	Directly applicable

Appendix E – Forest plots

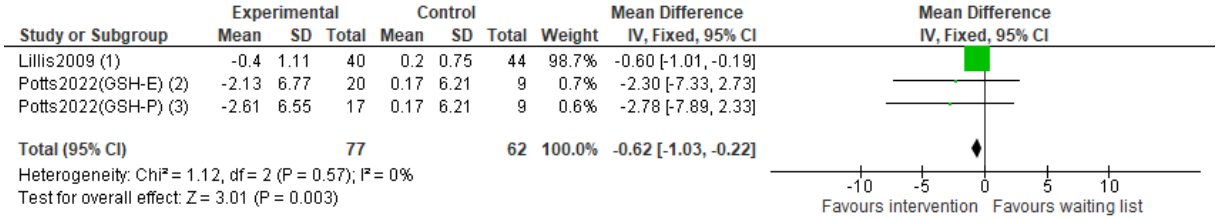
Acceptance and commitment therapy (ACT) vs. Waiting list

Weight stigma at ≤12 month follow up



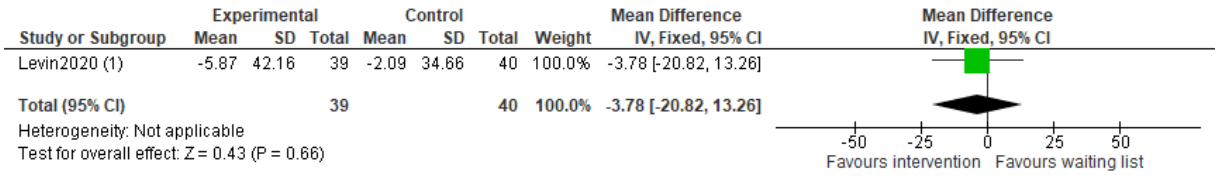
Footnotes
(1) Follow-up duration: 2 months
(2) Follow-up duration: 3 months
(3) Follow-up duration: 2 months. Potts2020 was reported twice due to 2 intervention arms.
(4) The 2 intervention arms were compared to the same control arm. We divided the total number of participants in the control group by two.

BMI at ≤12 month follow up



Footnotes
(1) Follow-up duration: 3 months
(2) Follow-up duration: 2 months. Potts2020 was reported twice due to 2 intervention arms.
(3) The 2 intervention arms were compared to the same control arm. We divided the total number of participants in the control group by two.

Self-reported weight (in pounds) at ≤12 month follow up

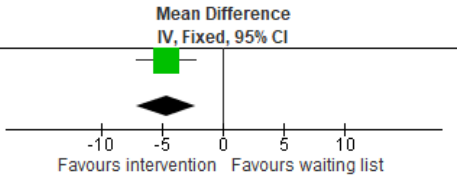


Footnotes
(1) Follow-up duration: 2 months

Anxiety and depression at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Lillis2009 (1)	-4.4	6.2	40	0.3	5.39	44	100.0%	-4.70 [-7.20, -2.20]
Total (95% CI)			**40**			**44**	**100.0%**	**-4.70 [-7.20, -2.20]**

Heterogeneity: Not applicable
Test for overall effect: Z = 3.69 (P = 0.0002)

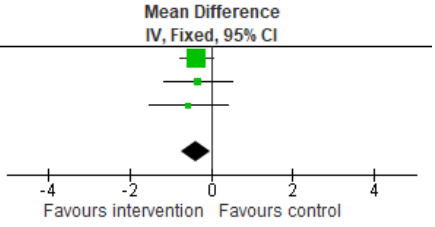


Footnotes
(1) Follow-up duration: 3 months

Change in eating behaviours- Binge eating at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Levin2020 (1)	-0.37	0.89	39	-0.01	1.04	40	68.4%	-0.36 [-0.79, 0.07]
Potts2022(GSH-E) (2)	-0.26	0.44	20	0.06	1.23	9	18.2%	-0.32 [-1.15, 0.51]
Potts2022(GSH-P) (3)	-0.51	1.12	17	0.06	1.23	9	13.4%	-0.57 [-1.53, 0.39]
Total (95% CI)			**76**			**58**	**100.0%**	**-0.38 [-0.73, -0.03]**

Heterogeneity: Chi² = 0.18, df = 2 (P = 0.91); I² = 0%
Test for overall effect: Z = 2.12 (P = 0.03)

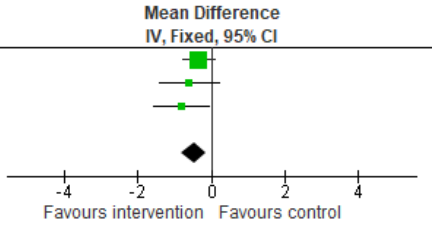


Footnotes
(1) Follow- up duration: 2 months
(2) The follow-up duration: 2 months. Potts2020 was reported twice due to 2 intervention arms.
(3) The 2 intervention arms were compared to the same control arm. We divided the total number of participants in the control group by two.

Change in eating behaviours- Emotional eating at ≤12 month follow up

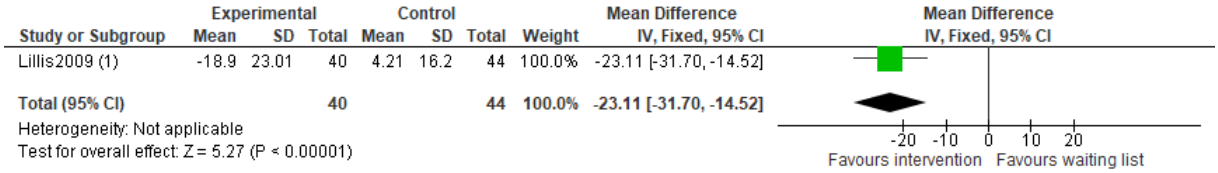
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Levin2020 (1)	-0.35	0.92	39	-0.02	1.04	40	62.3%	-0.33 [-0.76, 0.10]
Potts2022(GSH-E) (2)	-0.25	1.32	20	0.34	0.87	9	17.7%	-0.59 [-1.40, 0.22]
Potts2022(GSH-P) (3)	-0.47	1.08	17	0.34	0.87	9	19.9%	-0.81 [-1.58, -0.04]
Total (95% CI)			**76**			**58**	**100.0%**	**-0.47 [-0.81, -0.13]**

Heterogeneity: Chi² = 1.24, df = 2 (P = 0.54); I² = 0%
Test for overall effect: Z = 2.71 (P = 0.007)



Footnotes
(1) Follow-up duration: 2 months
(2) Follow-up duration: 2 months. Potts2020 was reported twice due to 2 intervention arms.
(3) The 2 intervention arms were compared to the same control arm. We divided the total number of participants in the control group by two.

Health related quality of life at ≤12 month follow up



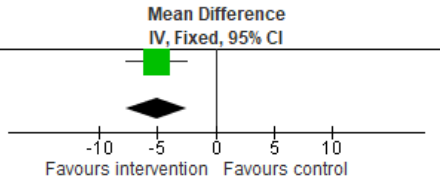
Footnotes
(1) Follow-up duration: 3 months

Acceptance and commitment therapy (ACT) + Compassion focus therapy (CFT) vs. Treatment as usual

Weight stigma at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Palmeira2017a (1)	-5.27	6.83	36	-0.19	4.13	37	100.0%	-5.08 [-7.68, -2.48]
Total (95% CI)			**36**			**37**	**100.0%**	**-5.08 [-7.68, -2.48]**

Heterogeneity: Not applicable
Test for overall effect: Z = 3.83 (P = 0.0001)

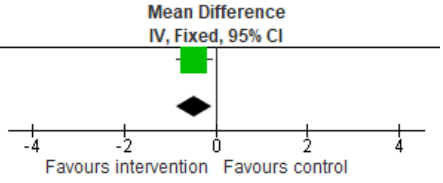


Footnotes
(1) Follow-up duration: 3 months and half

Weight loss at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Palmeira2017a (1)	-0.54	0.92	36	-0.07	0.76	37	100.0%	-0.47 [-0.86, -0.08]
Total (95% CI)			**36**			**37**	**100.0%**	**-0.47 [-0.86, -0.08]**

Heterogeneity: Not applicable
Test for overall effect: Z = 2.38 (P = 0.02)

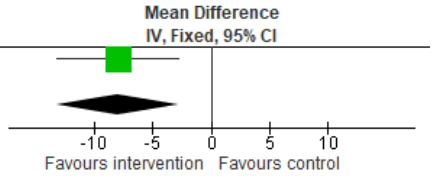


Footnotes
(1) Follow-up duration: 3 months and half

Health related quality of life at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Palmeira2017a (1)	-8.47	12.31	36	-0.56	10.18	37	100.0%	-7.91 [-13.10, -2.72]
Total (95% CI)			**36**			**37**	**100.0%**	**-7.91 [-13.10, -2.72]**

Heterogeneity: Not applicable
Test for overall effect: Z = 2.99 (P = 0.003)

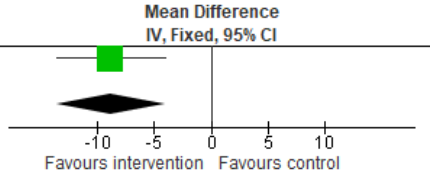


Footnotes
(1) Follow-up duration: 3 months and half

Anxiety and depression at ≤12 month follow up

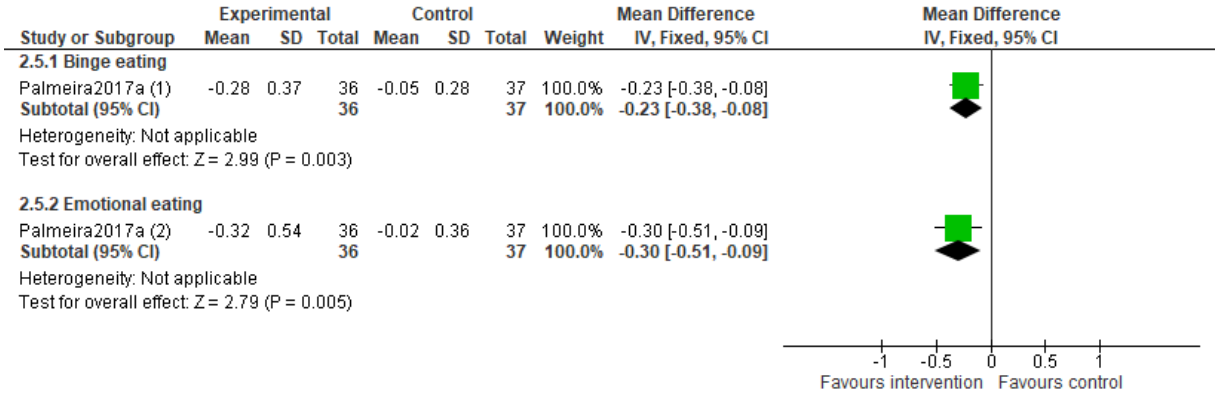
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Palmeira2017a (1)	-6.29	10.56	36	2.58	10.37	37	100.0%	-8.87 [-13.67, -4.07]
Total (95% CI)			**36**			**37**	**100.0%**	**-8.87 [-13.67, -4.07]**

Heterogeneity: Not applicable
Test for overall effect: Z = 3.62 (P = 0.0003)



Footnotes
(1) Follow-up duration: 3 months and half

Change in eating behaviours at ≤12 month follow up

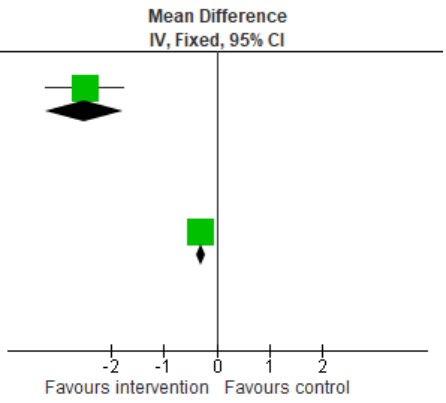


Footnotes
(1) Follow-up duration: 3 months and half
(2) Follow-up duration: 3 months and half

Adapted therapy (cognitive-behavioural therapy + third wave therapies) vs. Active control

Weight stigma at ≤12 month follow up

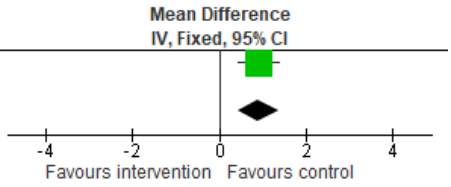
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
3.1.1 Weight self-stigma (WSSQ)								
Pearl2020b (1)	-5.6	1.6	36	-3.1	1.6	36	100.0%	-2.50 [-3.24, -1.76]
Subtotal (95% CI)			**36**			**36**	**100.0%**	**-2.50 [-3.24, -1.76]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 6.63 (P < 0.00001)								
3.1.2 Weight bias internalization (WBIS)								
Pearl2020b (2)	-1.5	0.2	36	-1.2	0.2	36	100.0%	-0.30 [-0.39, -0.21]
Subtotal (95% CI)			**36**			**36**	**100.0%**	**-0.30 [-0.39, -0.21]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 6.36 (P < 0.00001)								



Footnotes
(1) Follow-up duration: 6 months
(2) Follow-up duration: 6 months

Percent weight change (reported as weight loss in the paper) at ≤12 month follow up

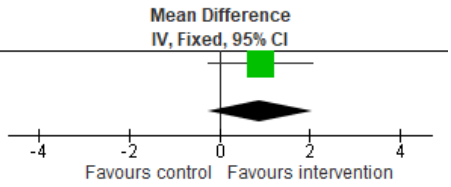
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Pearl2020b (1)	-3.1	1	36	-4	1	36	100.0%	0.90 [0.44, 1.36]
Total (95% CI)			**36**			**36**	**100.0%**	**0.90 [0.44, 1.36]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 3.82 (P = 0.0001)								



Footnotes
(1) Follow-up duration: 6 months.

Health related quality of life at ≤12 month follow up

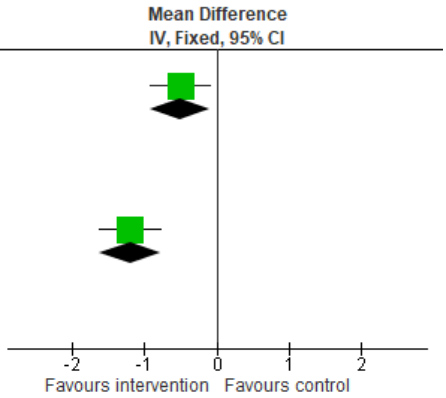
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Pearl2020b (1)	14.3	2.5	36	13.4	2.5	36	100.0%	0.90 [-0.25, 2.05]
Total (95% CI)			**36**			**36**	**100.0%**	**0.90 [-0.25, 2.05]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 1.53 (P = 0.13)								



Footnotes
(1) Follow-up duration: 6 months

Anxiety and depression at ≤12 month follow up

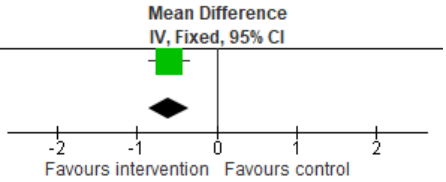
Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
3.4.1 Depression								
Pearl2020b (1)	-2.9	0.9	36	-2.4	0.9	36	100.0%	-0.50 [-0.92, -0.08]
Subtotal (95% CI)			**36**			**36**	**100.0%**	**-0.50 [-0.92, -0.08]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 2.36 (P = 0.02)								
3.4.2 Anxiety								
Pearl2020b (2)	-1.5	0.9	36	-0.3	0.9	36	100.0%	-1.20 [-1.62, -0.78]
Subtotal (95% CI)			**36**			**36**	**100.0%**	**-1.20 [-1.62, -0.78]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 5.66 (P < 0.00001)								



Footnotes
(1) Follow-up duration: 6 months
(2) Follow-up duration: 6 months

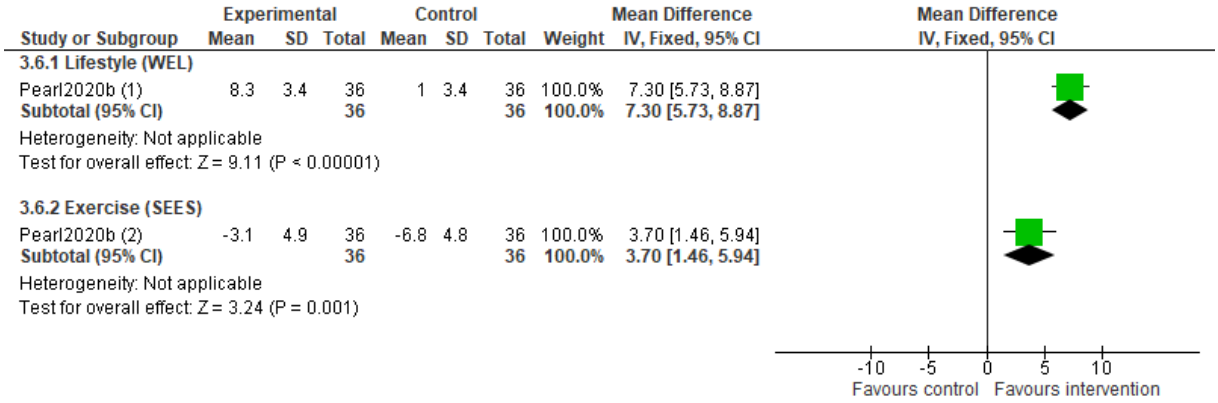
Change in eating behaviours at ≤12 month follow up

Study or Subgroup	Experimental Mean	SD	Total	Control Mean	SD	Total	Weight	Mean Difference IV, Fixed, 95% CI
Pearl2020b (1)	-1.8	0.5	36	-1.2	0.6	36	100.0%	-0.60 [-0.86, -0.34]
Total (95% CI)			**36**			**36**	**100.0%**	**-0.60 [-0.86, -0.34]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 4.61 (P < 0.00001)								



Footnotes
(1) Follow-up duration: 6 months

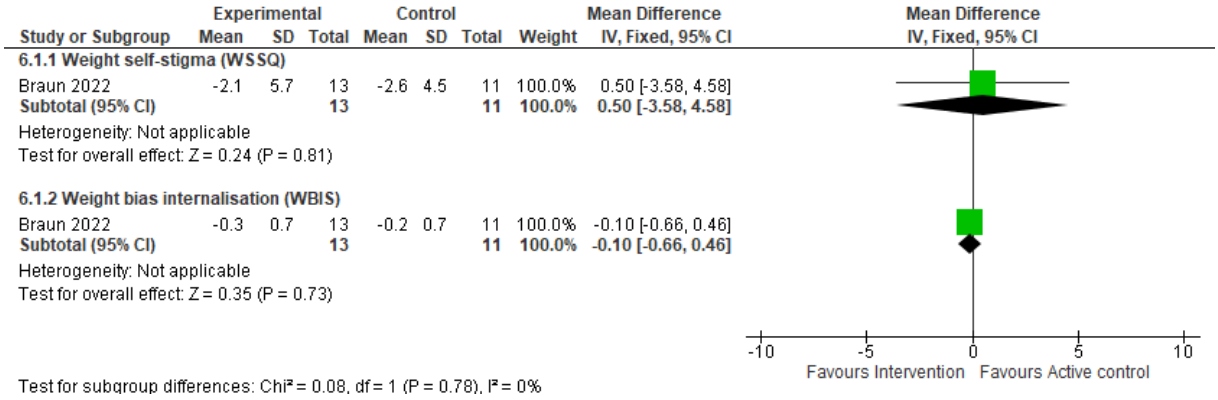
Self-efficacy at ≤12 month follow up



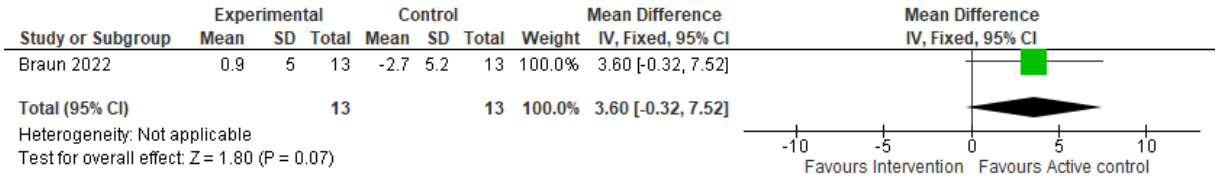
Footnotes
(1) Follow-up duration: 6 months
(2) Follow-up duration: 6 months

Mindful self-compassion vs. Active control

Weight stigma at ≤12 month follow up



Weight loss (kg) at ≤12 month follow up



Appendix F – GRADE and GRADE-CERQual tables

GRADE tables

Acceptance and commitment therapy (ACT) vs. Waiting list

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Acceptance and commitment therapy	Waiting list	Relative (95% CI)	Absolute		
Weight stigma (Better indicated by lower values) ≤ 12 months follow up. MID = 0.61												
3[(a)]	randomised trials	serious[1]	no serious inconsistency	serious[2]	serious[3]	none	116	102	-	MD 0.72 lower (0.96 to 0.47 lower)	⊕OOO VERY LOW	CRITICAL
BMI (Better indicated by lower values) ≤ 12 months follow up. MID = 3.11												
2[(b)]	randomised trials	serious[1]	no serious inconsistency	no serious indirectness	no serious imprecision[4]	none	77	62	-	MD 0.62 lower (1.03 to 0.22 lower)	⊕⊕⊕O MODERATE	CRITICAL
Self-reported weight (in pounds) (Better indicated by lower values) ≤ 12 months follow up. MID = 17.33												
1[(c)]	randomised trials	serious[1]	no serious inconsistency[5]	serious[2]	serious[6]	none	39	40	-	MD 3.78 lower (20.82 lower to 13.26 higher)	⊕OOO VERY LOW	CRITICAL
Anxiety and depression (Better indicated by lower values) ≤ 12 months follow up. MID = 2.70												
1[(d)]	randomised trials	serious[1]	no serious inconsistency[5]	no serious indirectness	serious[7]	none	40	44	-	MD 4.7 lower (7.2 to 2.2 lower)	⊕⊕OO LOW	IMPORTANT
Change in eating behaviours - Binge eating (Better indicated by lower values) ≤ 12 months follow up. MID = 0.615												
2[(e)]	randomised trials	serious[1]	no serious inconsistency	serious[2]	serious[8]	none	76	58	-	MD 0.38 lower (0.73 to 0.03 lower)	⊕OOO VERY LOW	IMPORTANT
Change in eating behaviours - Emotional eating (Better indicated by lower values) ≤ 12 months follow up. MID = 0.44												
2[(e)]	randomised trials	serious[1]	no serious inconsistency	serious[2]	serious[9]	none	76	58	-	MD 0.47 lower (0.81 to 0.13 lower)	⊕OOO VERY LOW	IMPORTANT
Health related quality of life (Better indicated by lower values) ≤ 12 months follow up. MID = 8.1												
1[(d)]	randomised trials	serious[1]	no serious inconsistency[5]	no serious indirectness	no serious imprecision[10]	none	40	44	-	MD 23.11 lower (31.7 to 14.52 lower)	⊕⊕⊕O MODERATE	IMPORTANT

[a] Levin 2020 (follow-up duration: 2 months), Lillis 2009 (follow-up duration: 3 months) and Potts 2022 (follow-up duration: 2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms.
[b] Lillis 2009 (follow-up duration:3 months) and Potts 2022 (follow-up duration:2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms.
[c] Levin 2020 (follow-up duration: 2 months).
[d] Lillis 2009 (follow-up duration: 3 months).
[e] Levin 2020 (follow-up duration: 2 months), Lillis 2009 (follow-up duration: 3 months) and Potts 2022 (follow-up duration: 2 months). Potts 2022 was reported twice in the forest plot due to 2 intervention arms

[1] Downgraded once: greater than 33.3% of the weight of the meta-analysis came from studies at moderate or high risk of bias.
[2] Downgraded once: greater than 33.3% of the weight of the meta-analysis came from studies that were partially or indirectly applicable.
[3] Downgraded once: confidence interval crossed one MID. Calculated SD median of comparison group = 1.21. MID calculated as 0.5 of the SD median in comparison group= 0.61
[4] Calculated SD median of comparison group = 6.21. MID calculated as 0.5 of the SD median in comparison group= 3.11
[5] Single study. Inconsistency not applicable
[6] Downgraded once: confidence interval crossed one MID. SD of comparison group = 34.66. MID calculated as 0.5 of the SD in comparison group= 17.33
[7] Downgraded once: confidence interval crossed one MID. SD of comparison group = 5.39. MID calculated as 0.5 of the SD in comparison group= 2.70
[8] Downgraded once: confidence interval crossed one MID. SD of comparison group = 1.23. MID calculated as 0.5 of the SD in comparison group= 0.615
[9] Downgraded once: confidence interval crossed one MID. SD of comparison group = 0.87. MID calculated as 0.5 of the SD in comparison group= 0.44.
[10] SD of comparison group = 16.2. MID calculated as 0.5 of the SD in comparison group= 8.1

Acceptance and commitment therapy (ACT) + Compassion focus therapy (CFT) vs. Treatment as usual

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Acceptance and commitment therapy + Compassion focused therapy	Treatment as usual	Relative (95% CI)	Absolute		
Weight stigma (Better indicated by lower values) at ≤12 month follow up. MID = 2.06												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	no serious imprecision[3]	none	36	37	-	MD 5.08 lower (7.68 to 2.48 lower)	⊕⊕⊕O MODERATE	CRITICAL
Weight loss (Better indicated by lower values) at ≤12 month follow up. MID = 0.38												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	serious[4]	none	36	37	-	MD 0.47 lower (0.86 to 0.08 lower)	⊕⊕OO LOW	CRITICAL
Health related quality of life (Better indicated by lower values) at ≤12 month follow up. MID = 5.09												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	serious[5]	none	36	37	-	MD 7.91 lower (13.1 to 2.72 lower)	⊕⊕OO LOW	IMPORTANT
Anxiety and depression (Better indicated by lower values) at ≤12 month follow up. MID = 5.18												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	serious[6]	none	36	37	-	MD 8.87 lower (13.67 to 4.07 lower)	⊕⊕OO LOW	IMPORTANT
Change in eating behaviours - Binge eating (Better indicated by lower values) at ≤12 month follow up. MID = 0.14												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	serious[7]	none	36	37	-	MD 0.23 lower (0.38 to 0.08 lower)	⊕⊕OO LOW	IMPORTANT
Change in eating behaviours - Emotional eating (Better indicated by lower values) at ≤12 month follow up. MID = 0.18												
1[(a)]	randomised trials	serious[1]	NA[2]	no serious indirectness	serious[8]	none	36	37	-	MD 0.3 lower (0.51 to 0.09 lower)	⊕⊕OO LOW	IMPORTANT

[(a)] Palmeira 2017a (follow-up duration: 3 months and half).

[1] Downgraded once: greater than 33.3% of the weight of the meta-analysis came from studies at moderate or high risk of bias.
[2] Single study. Inconsistency not applicable
[3] SD of comparison group = 4.13. MID calculated as 0.5 of the SD in comparison group= 2.06
[4] Downgraded once: confidence interval crossed one MID. SD of comparison group = 0.76. MID calculated as 0.5 of the SD in comparison group= 0.38
[5] Downgraded once: confidence interval crossed one MID. SD of comparison group = 10.18. MID calculated as 0.5 of the SD in comparison group= 5.09
[6] Downgraded once: confidence interval crossed one MID. SD of comparison group = 10.37. MID calculated as 0.5 of the SD in comparison group= 5.18
[7] Downgraded once: confidence interval crossed one MID. SD of comparison group = 0.28. MID calculated as 0.5 of the SD in comparison group= 0.14
[8] Downgraded once: confidence interval crossed one MID. SD of comparison group = 0.36. MID calculated as 0.5 of the SD in comparison group= 0.18

Adapted therapy (cognitive-behavioural therapy + third wave therapies) vs. Active control

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Adapted therapy	Active control	Relative (95% CI)	Absolute		
Weight stigma (WSSQ) - Weight self-stigma (Better indicated by lower values) at ≤12 month follow up. MID = 0.8												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[3]	none	36	36	-	MD 2.5 lower (3.24 to 1.76 lower)	⊕⊕⊕O MODERATE	CRITICAL
Weight stigma (WSSQ) - Weight bias internalization (Better indicated by lower values) at ≤12 month follow up. MID = 0.1												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[4]	none	36	36	-	MD 0.3 lower (0.39 to 0.21 lower)	⊕⊕⊕O MODERATE	CRITICAL
Percent weight change (reported as weight loss in the paper) (Better indicated by lower values) at ≤12 month follow up. MID = 5%												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[5]	none	36	36	-	MD 0.9 higher (1.36 to 0.44 higher)	⊕⊕⊕O MODERATE	CRITICAL
Health related quality of life (Better indicated by higher values) at ≤12 month follow up. MID = 1.25												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	serious[6]	none	36	36	-	MD 0.9 higher (0.25 lower to 2.05 higher)	⊕⊕OO LOW	IMPORTANT
Anxiety and depression - Depression (Better indicated by lower values) at ≤12 month follow up. MID = 0.45												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	serious[7]	none	36	36	-	MD 0.5 lower (0.92 to 0.08 lower)	⊕⊕OO LOW	IMPORTANT
Anxiety and depression - Anxiety (Better indicated by lower values) at ≤12 month follow up. MID = 0.45												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[8]	none	36	36	-	MD 1.20 lower (1.62 to 0.78 lower)	⊕⊕⊕O MODERATE	IMPORTANT
Change in eating behaviours (Better indicated by lower values) at ≤12 month follow up. MID = 0.3												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[9]	none	36	36	-	MD 0.60 lower (0.86 to 0.34 lower)	⊕⊕⊕O MODERATE	IMPORTANT
Self efficacy - Lifestyle (WEL) (Better indicated by higher values) at ≤12 month follow up. MID = 1.7												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	no serious imprecision[10]	none	36	36	-	MD 7.3 higher (5.73 to 8.87 higher)	⊕⊕⊕O MODERATE	IMPORTANT
Self efficacy - Exercise (SEES) (Better indicated by higher values) at ≤12 month follow up. MID = 2.4												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	serious[11]	none	36	36	-	MD 3.7 higher (1.46 to 5.94 higher)	⊕⊕OO LOW	IMPORTANT

[(a)]Pearl2020b (follow-up duration: 6 months).

[1] Downgraded once: greater than 33.3% of the weight of the meta-analysis came from studies at moderate or high risk of bias.
[2] Single study. Inconsistency not applicable
[3] SD of comparison group = 1.6. MID calculated as 0.5 of the SD in comparison group= 0.8
[4] SD of comparison group = 0.2. MID calculated as 0.5 of the SD in comparison group= 0.1
[5] MID is 5% change in weight
[6] Downgraded once: confidence interval crossed one MID. SD of comparison group = 2.5. MID calculated as 0.5 of the SD in comparison group= 1.25
[7] Downgraded once: confidence interval crossed one MID. SD of comparison group = 0.9. MID calculated as 0.5 of the SD in comparison group= 0.45
[8] SD of comparison group = 0.9. MID calculated as 0.5 of the SD in comparison group= 0.45
[9] SD of comparison group = 0.6. MID calculated as 0.5 of the SD in comparison group= 0.3
[10] SD of comparison group = 3.4. MID calculated as 0.5 of the SD in comparison group= 1.7
[11] Downgraded once: confidence interval crossed one MID. SD of comparison group = 4.8. MID calculated as 0.5 of the SD in comparison group= 2.4

Mindful self-compassion vs. Active control

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Acceptance and commitment therapy	Waiting list	Relative (95% CI)	Absolute		
Weight stigma – Weight self-stigma (WSSQ) (Better indicated by lower values) at ≤12 month follow up. MID = 2.25												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	very serious[3]	none	13	11	-	MD 0.5 higher (3.58 lower to 4.58 higher)	⊕OOO VERY LOW	CRITICAL
Weight stigma – Weight bias internalisation (WBIS) (Better indicated by lower values) at ≤12 month follow up. MID = -0.1												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	very serious[4]	none	13	11	-	MD 0.1 lower (0.66 lower to 0.46 higher)	⊕OOO VERY LOW	CRITICAL
Weight loss (kg) (Better indicated by lower values) at ≤12 month follow up. MID = 2.6												
1[(a)]	randomised trials	serious[1]	no serious inconsistency[2]	no serious indirectness	serious[5]	none	13	13	-	MD 3.6 higher (0.32 lower to 7.52 higher)	⊕⊕OO LOW	CRITICAL

[a] Braun 2022
[1] Downgraded once: greater than 33.3% of the weight of the meta-analysis came from studies at moderate or high risk of bias
[2] Single study; inconsistency not applicable
[3] Downgraded twice: confidence interval crossed two MIDs. SD of comparison group = 4.5. MID calculated as 0.5 of the SD in the comparison group = 2.25
[4] Downgraded twice: confidence interval crossed two MIDs. SD of comparison group = -0.2. MID calculated as 0.5 of the SD in the comparison group = -0.1
[5] Downgraded once: confidence interval crossed one MID. SD of comparison group = 5.2. MID calculated as 0.5 of the SD in the comparison group = 2.6.

CERQual tables

Acceptability of compassion focused therapy

Studies	Finding	Methodological limitations	Relevance	Coherence	Adequacy	Confidence
Safeness to help explore the feelings of shame						
Carter 2021	Participants were initially afraid to attend the intervention sessions and engage in group therapy. They were worried with what the other people thought of them and their body weight. When a safeness sense was developed within the group, the participants were more willing to share their feelings and stories.	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low
Common humanity and the shared experience of suffering						
Carter 2021	Participants expressed that they felt alone and isolated	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low

	with their problems and concerns related to their body weight. The intervention helped them to realise that they were not the only ones facing these problems and these struggles were not a sign of weakness but a part of the human experience.					
Through compassionate wisdom, health engaging behaviours are encouraged						
Carter 2021	Participants expressed their frustration with what others, especially family and friends, thought of their body weight, even though they actively participated in dieting and exercise. The compassion wisdom, which has been strengthen during the intervention, encouraged health related behaviours, instead of self-criticism among participants.	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low

Connection within the flow of compassion						
Carter 2021	Participants initially felt uncomfortable when they were sharing their struggles within the group and other members directed compassion towards them. However, this feeling changed over the time.	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low
Ability to mindfully switch from criticism to compassion						
Carter 2021	Participants acquired the ability to be more aware of the loops of self-criticism.	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low
Connection the participants had with the content of the program						
Carter 2021	Aspects of the intervention became part of participants' lives.	Minor concern[1]	No concerns	No concerns	Minor concern[2]	Low

[1]Finding was downgraded once because it was identified mainly in studies at moderate or high risk of bias

[2]Finding was downgraded once for adequacy because of insufficient studies (fewer than 3) or insufficient detail

Appendix G – Economic evidence study selection

Appendix H – Economic evidence tables

No study was identified in the evidence review.

Appendix I – Health economic model

Not applicable.

Appendix J – Excluded studies

Effectiveness

Study	Reason for exclusion
Alberga, AS, Pickering, BJ, Alix Hayden, K et al. (2016) Weight bias reduction in health professionals: a systematic review. Clinical obesity 6(3): 175-88	Wrong population. Participants were health professionals
Albertson, E. R., Neff, K. D., & Dill-Shackleford, K. E. (2015). Self-compassion and body dissatisfaction in women: A randomized controlled trial of a brief meditation intervention. Mindfulness, 6(3), 444–454. https://doi.org/10.1007/s12671-014-0277-3	Wrong population. Participants were female, over 18 with Internet access
Braun, T. D., Park, C. L., & Conboy, L. A. (2012). Psychological well-being, health behaviors, and weight loss among participants in a residential, Kripalu yoga-based weight loss program. International Journal of Yoga Therapy, 22(1), 9–22. https://doi.org/10.17761/ijyt.22.1.y47k2658674t1212	Wrong outcome: nutrition behaviors, self-compassion, mindfulness, stress management, spiritual growth and self-report weight loss at 1 year
Braun, T. D., Park, C. L., & Gorin, A. (2016). Self-compassion, body image, and disordered eating: A review of the literature. Body Image, 17,117–131.https://doi.org/10.1016/j.bodyim.2016.03.003	Wrong population. The population of the review was not people living with overweight and obesity
Braun, T. D., Park, C. L., Gorin, A. A., Garivaltis, H., Noggle, J. J., & Conboy, L. A. (2016). Group-based yogic weight loss with ayurveda-inspired components: A pilot investigation of female yoga practitioners and novices. International Journal of Yoga Therapy, 26(1), 55–72. https://doi.org/10.17761/1531-2054-26.1.55	Wrong outcome: self-reported psychosocial process variables and % of self-reported total body weight loss (%TBWL)

Breithaupt, L.; Trojanowski, P.; Fischer, S. (2020) Implicit and Explicit Anti-Fat Attitude Change Following Brief Cognitive Dissonance Intervention for Weight Stigma. Obesity 28(10): 1853-1859	Wrong population. Participants were male and female undergraduates
Brownstone, L.M., Kelly, D.A., Ko, S.-J.S. et al. (2021) Dismantling Weight Stigma: A Group Intervention in a Partial Hospitalization and Intensive Outpatient Eating Disorder Treatment Program. Psychotherapy 58(2): 282-287	Wrong intervention. The intervention aims to explore the experiences with weight stigma. "*Future work must explore whether this intervention has an impact on weight stigma, psychological distress, and eating disorder severity as well as whether it can be delivered across a wider range mental health and health care settings*."
Cassin, Stephanie E and Friedman, Aliza (2017) Weight-based stigma and body image in severe obesity. Psychiatric care in severe obesity: An interdisciplinary guide to integrated care.: 93-105	Review article but not a systematic review. Book chapter reporting a literature review
Chew, Han Shi Jocelyn, Chng, Samuel, Rajasegaran, Nagadarshini Nicole et al. (2023) Effectiveness of acceptance and commitment therapy on weight, eating behaviours and psychological outcomes: a systematic review and meta-analysis. Eating and weight disorders: EWD 28(1): 6	Systematic review used as a source of primary studies
Ciao, A.C. and Latner, J.D. (2011) Reducing obesity stigma: The effectiveness of cognitive dissonance and social consensus interventions. Obesity 19(9): 1768-1774	Wrong population. Participants were college undergraduate students
Crockett, K.B., Borgatti, A., Tan, F. et al. (2021) Weight Discrimination Experienced Prior to Enrolling in a Behavioral Obesity Intervention is Associated with Treatment Response Among Black and White Adults in the Southeastern U.S. International journal of behavioral medicine	Wrong intervention. It is a secondary analysis of a 2-arm randomized controlled trial (RCT) comparing 12-month weight loss maintenance among a sample previously achieving ≥5% weight loss

Duarte, C., Gilbert, P., Stalker, C., Catarino, F., Basran, J., Scott, S., …, & Stubbs, R. J. (2021). Effect of adding a compassion-focused intervention on emotion, eating and weight outcomes in a commercial weight management programme. Journal of Health Psychology, 26(10),1700–1715.https://doi.org/10.1177/1359105319890019	Wrong outcome: eating behaviour, self-evaluation, and weight-related outcomes
Fekete, Erin M, Herndier, Rose E, Sander, Alison C et al. (2021) Self-compassion, internalized weight stigma, psychological well-being, and eating behaviors in women. Mindfulness 12(5): 1262-1271	Wrong intervention. It a survey to examine the indirect effects of self-compassion on maladaptive eating behaviours through lower levels of internalized weight stigma and increased psychological well-being
Fitterman-Harris, H.F. and Vander Wal, J.S. (2021) Weight bias reduction among first-year medical students: A quasi-randomized, controlled trial. Clinical Obesity 11(6): e12479	Wrong population. Participants were first-year medical students
Fletcher, L. (2011). A Mindfulness and Acceptance-based Intervention for Increasing Physical Activity and Reducing Obesity (unpublished doctoral dissertation). University of Nevada, Reno	Dissertation
Forbes, Yvette N, Moffitt, Robyn L, Van Bokkel, Marieke et al. (2020) Unburdening the weight of stigma: Findings from a compassion-focused group program for women with overweight and obesity. Journal of Cognitive Psychotherapy 34(4): 336-357	A control group was not included
Gerend, M.A., Sutin, A.R., Terracciano, A. et al. (2020) The role of psychological attribution in responses to weight stigma. Obesity Science and Practice 6(5): 473-483	Study does not contain a relevant outcome. The study assessed the following outcomes: 1) Negative affect, 2) Social self-esteem, 3) Appearance self-esteem, 4) Cognitive functioning, and 5) Salivary cortisol at follow-up
Gray, Wendy N, Kahhan, Nicole A, Janicke, David M et al. (2009) Peer victimization and pediatric obesity: A review of the literature. Psychology in the Schools 46(8): 720-727	Review article but not a systematic review

Grosko, Teressa Anna (2010) Obesity stigma reduction. Dissertation Abstracts International: Section B: The Sciences and Engineering 70(7b): 4483	Conference abstract
Hagerman, Charlotte J (2022) Interrupting the cycle of weight stigma and unhealthy behavior: The potential of self-affirmation and self-compassion exercises. Dissertation Abstracts International: Section B: The Sciences and Engineering 83(3b): no-specified	Conference abstract
Haley, Erin N, Dolbier, Christyn L, Carels, Robert A et al. (2022) A brief pilot self-compassion intervention for women with overweight/obesity and internalized weight bias: Feasibility, acceptability, and future directions. Journal of Contextual Behavioral Science 23: 59-63	A control arm was not included
Hilbert, A. (2016) Weight stigma reduction and genetic determinism. PLoS ONE 11(9): e0162993	Wrong population. Participants were university students.
Hopkins, Christina M (2023) Reduction of internalized weight bias via mindful self-compassion: Theoretical framework and results from a randomized controlled trial. Dissertation Abstracts International: Section B: The Sciences and Engineering 84(4b): no-specified	Not a peer reviewed publication
Hopkins, Christina M, Miller, Hailey N, Brooks, Taylor L et al. (2021) Designing Ruby: Protocol for a 2-Arm, Brief, Digital Randomized Controlled Trial for Internalized Weight Bias. JMIR research protocols 10(11): e31307	Study protocol

Horan, K. A., & Taylor, M. B. (2018, February). Mindfulness and self-compassion as tools in health behavior change: An evaluation of a workplace intervention pilot study. Journal of Contextual Behavioral Science, 8, 8–16. https://doi.org/10.1016/j.jcbs.2018.02.003	Wrong outcome: health behavior engagement
Ickes, Melinda J (2011) Stigmatization of overweight and obese individuals: Implications for mental health promotion. International Journal of Mental Health Promotion 13(3): 37-45	Review article but not a systematic review
Iturbe, I., Pereda-Pereda, E., Echeburua, E. et al. (2021) The effectiveness of an acceptance and commitment therapy and mindfulness group intervention for enhancing the psychological and physical well-being of adults with overweight or obesity seeking treatment: The mind&life randomized control trial study protocol. International Journal of Environmental Research and Public Health 18(9): 4396	Study protocol
Joplin, M. (2015, November). Evaluating “The Body Positivie,” a body image curriculum focused on body appreciation, intuitive eating, and self-compassion [Doctoral dissertation]. The Wright Institute.	Dissertation
Levin, Michael E, Potts, Sarah, Haeger, Jack et al. (2018) Delivering acceptance and commitment therapy for weight self-stigma through guided self-help: Results from an open pilot trial. Cognitive and Behavioral Practice 25(1): 87-104	A control arm was not included
Lillis, Jason (2008) Acceptance and commitment therapy for the treatment of obesity-related stigma and weight control. Dissertation Abstracts International: Section B: The Sciences and Engineering 68(7b): 4833	Conference abstract

Mantzios, M., & Wilson, J. C. (2014). Making concrete construals mindful: A novel approach for developing mindfulness and self compassion to assist weight loss. Psychology & Health, 29(4), 422–441. https://doi.org/10.1080/08870446.2013.863883	Wrong outcome: weight loss
Mantzios, M., & Wilson, J. C. (2015). Exploring mindfulness and mindfulness with self-compassion-centered interventions to assist weight loss: Theoretical considerations and preliminary results of a randomized pilot study. Mindfulness, 6(4), 824–835. https://doi. org/10.1007/s12671-014-0325-z	Wrong outcome: weight loss
Meaney, T. and Rieger, E. (2021) Integrating cognitive dissonance and social consensus to reduce weight stigma. Body image 37: 117-126	Wrong population. Participants were university students
Mensinger, JL; Calogero, RM; Tylka, TL (2016) Internalized weight stigma moderates eating behavior outcomes in women with high BMI participating in a healthy living program. Appetite 102: 32-43	Wrong intervention. It is not a psychological intervention and did not aim at reducing weight stigma. (From the paper: "curriculum did not directly address internalized weight stigma")
Moffitt, R. L., Neumann, D. L., & Williamson, S. P. (2018). Comparing the efficacy of a brief self-esteem and self-compassion intervention for state body dissatisfaction and self-improvement motivation. Body Image, 27, 67–76.https://doi.org/10.1016/j.bodyim.2018.08.008	Wrong population. Participants were female undergraduate students with a mean body mass index (BMI) of 23.44

Palmeira, L.; Cunha, M.; Pinto-Gouveia, J. (2019) Processes of change in quality of life, weight self-stigma, body mass index and emotional eating after an acceptance-, mindfulness- and compassion-based group intervention (Kg-Free) for women with overweight and obesity. Journal of health psychology 24(8): 1056-1069	A control group was not included
Pearl, R.L., Hopkins, C.H., Berkowitz, R.I. et al. (2018) Group cognitive-behavioral treatment for internalized weight stigma: a pilot study. Eating and Weight Disorders 23(3): 357-362	It is a pilot study of a RCT which has been already included in the review (i.e., Pearl2020)
Pearson, A. N., Follette, V. M., & Hayes, S. C. (2012). A pilot study of acceptance and commitment therapy as a workshop intervention for body dissatisfaction and disordered eating attitudes. Cognitive and Behavioral Practice, 19, 181–197	Wrong outcome: eating attitudes (the EAT), body anxiety (PASTAS), and preoccupation with eating, weight, and shape (PEWS)
Pineau, T. R. (2014). The Catholic University of America effects of Mindful Sport Performance Enhancement (MSPE) on running performance and body image: Does self-compassion make a difference? [Doctoral dissertation]. Catholic University of America	Dissertation
Potts, Sarah A (2018) Putting weight in context: Acceptance and Commitment Therapy (ACT) guided self-help for weight self-stigma. Dissertation Abstracts International: Section B: The Sciences and Engineering 79(12be): no-specified	Conference abstract

Scagliusi, Fernanda Baeza, Ulian, Mariana Dimitrov, Gualano, Bruno et al. (2020) "Before I saw a gas canister, now I see a person": Post obesity-intervention body acceptance and responses to weight stigma among urban Brazilian Gorda women. Human Organization 79(3): 176-191	Wrong intervention. "*The I-HAES®-group participated in a physical activity program three times a week, bimonthly individual nutritional sessions, and five philosophical workshops throughout the intervention (see Ulian et al. 2017)*"
Seo, C. (2015). Minfulness meditation and innate compassion training interventions and body image dissatisfaction in women [Doctoral dissertation]. Fielding Graduate University	Dissertation
Sherf-Dagan, S., Kessler, Y., Mardy-Tilbor, L. et al. (2022) The effect of an education module to reduce weight bias among medical centers employees: A randomized controlled trial. Obesity facts	Wrong population. Participants were employees of Assuta Medical Centers.
Stern, N. G., & Engeln, R. (2018). Self-compassionate writing exercises increase college women's body satisfaction. Psychology of Women Quarterly,42(3),326–341.https://doi.org/10.1177/0361684318773356	Wrong outcome: body satisfaction
Stuart, A. (2015). Positive health education: A mixed methods study on the efficacy of adding self-compassion and resilience to a non-diet worksite wellness program. Doctorial Dissertation, The University of Utah.	Dissertation
Stuart, J. (2009). Maladaptive perfectionism and disordered eating in college women: The mediating role of self-compassion. Doctorial dissertation. University of Florida	Dissertation
Toole, A. M., & Craighead, L. W. (2016). Brief self-compassion meditation training for body image distress in young adult women. Body Image, 19, 104–112. https://doi.org/10.1016/j.bodyim.2016.09.001	Wrong population. Participants were women with a mean body mass index (BMI) of 22.20

Vimalakanthan, K., Kelly, A. C., & Trac, S. (2018). From competition to compassion: A caregiving approach to intervening with appearance comparisons. Body Image, 25, 148–162. https://doi. org/10.1016/j.bodyim.2018.03.003	Wrong population. Participants were females with mean body mass index (BMI; kg/m2) of 21.7
Voelker, D. K., Petrie, T. A., Huang, Q., & Chandran, A. (2019). Bodies in Motion: An empirical evaluation of a program to support positive body image in female collegiate athletes. Body Image, 28, 149-158. https://doi.org/10.1016/j.bodyim.2019.01.008	Wrong population. Participants were female collegiate athletes
Weineland, S., Arvidssonb, D., Thanos, P., Kakoulidisb, T. P., & Dahla, J. (2012a) Acceptance and commitment therapy for bariatric surgery patients, a pilot RCT. Obesity Research & Clinical Practice, 6, e21–e30.	Wrong outcome: emotional eating, body dissatisfaction and quality of life
Weineland, S., Hayes, S. C., & Dahl, J. (2012b). Psychological flexibility and the gains of acceptance-based treatment for post-bariatric surgery: Six-month follow-up and a test of the underlying model. Clinical Obesity, 2, 15–24.	Wrong outcome: emotional eating, body dissatisfaction and quality of life
Ziemer, K. S., Lamphere, B. R., Raque-Bogdan, T. L., & Schmidt, C. K. (2019). A randomized controlled study of writing interventions on college women's positive body image. Mindfulness, 10(1), 66-77. https://doi.org/10.1007/s12671-018-0947-7.pdf	Wrong outcome: positive body image

Appendix K – Research recommendations – full details

NICE's process and methods guide for research recommendations

K.1.1 Research recommendation

What is the effectiveness and acceptability of psychological therapies (ACT, CFT, cognitive behavioural therapy or combination of approaches) to address the counterproductive effect of weight stigma in children, young people and adults?

K.1.2 Why this is important

Weight stigma is a massive issue for children, young people, and adults living with overweight and obesity, which is associated with many negative and detrimental effects (e.g., poor psychological wellbeing, higher levels of depression and anxiety, and weight gain) that greatly impact their quality of life.

Low quality evidence was found on different psychological approaches to address weight stigma in adults. No studies were found in children and young people, and other important subgroups. More research is furthermore needed to understand how weight stigma can be addressed.

K.1.3 Rationale for research recommendation

Importance to 'patients' or the population	New evidence on psychological approaches will help children, young people and adults living with overweight and obesity to have the right support to address the negative and detrimental effects of weight stigma and have a better quality of life.
Relevance to NICE guidance	This review found low quality of evidence on the effectiveness and acceptability of psychological approaches to address weight stigma. Half of the included studies were either pilot or preliminary studies, with extremely small sample sizes. In addition, no evidence was found on children and young people, other important subgroups, and at different tier services.
Relevance to the NHS	Introducing psychological approaches at different tiers will reduce the number of people with low quality of life due to the detrimental and negative effects of weight stigma.
National priorities	High
Current evidence base	Minimal long-term data
Equality considerations	None known

K.1.4 Modified PICO table

Population	• People aged 18 years and over who are:
	  ○ Overweight (BMI 25 kg/m2 to 29.9 kg/m2) or
	  ○ living with obesity (BMI ≥ 30 kg/m2)
	• Children and young people who have a: BMI above the 91st centile (1.34 standard deviations)
	• Parents and carers' of children and young people living with overweight and obesity
	Subgroups:
	• Adults and CYP living with overweight, and obesity subjected to an additional stigma:
	  ○ Adults and CYP from deprived area
	  ○ Adults and CYP with learning disabilities and SEND
	  ○ Adults and CYP with serious mental illness
	  ○ Older people
	• Patients in different tier services:
	  ○ Patients in tier 2
	  ○ Patients in tier 3
	  ○ Patients in tier 4

Intervention	Psychological interventions that aim to reduce weight stigma such as compassion focused therapy, acceptance commitment therapy or cognitive behavioural therapy where the specific aim is to reduce the adverse impact of weight stigma.
Comparator	• Standard care • No intervention • Waiting list control • Alternative weight-management intervention that does not have the aim of reducing the adverse impact of weight stigma
Outcome	• Primary outcomes: ○ Stigma (*using the Weight Bias Internalisation Scale (WBIS; Durso and Latner, 2008) or Weight Self-Stigma*

	Questionnaire (WSSQ; Lillis et al 2010 or other validated tool) ○ Weight gain ○ Health related quality of life (measured using validated tool) ○ Anxiety and depression (measured using validated tools) • Secondary outcomes: ○ Weight loss (achieving or maintaining) at 12 months and for the longest time point reported by the study. Measures including: ▪ Weight loss ▪ BMI reduction ▪ Waist circumference ▪ Waist-to-height ratio ▪ BMI z score in children ○ Change in eating behaviours (for example, binge eating, night eating, emotional eating) ○ Self-efficacy (measured using validated tool such as the general self-efficacy scale) • Qualitative studies: The outcomes will be generated using emergent coding, but are expected to include the following: ○ Factors that increase acceptability of psychological approach ○ Factors that reduce acceptability of psychological approach
Study design	RCT Focus group
Timeframe	1 year follow up
Additional information	None