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SHORT COMMUNICATION

The role of avoidance-based coping in the psychosocial functioning of weight loss treatment-seeking adults

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Summary

Objective

The aim of this study was to determine the role of avoidance-based coping in the psychosocial functioning of weight loss treatment-seeking persons with obesity who report high internal disinhibition.

Methods

Participants were 162 overweight or obese adults entering a behavioural weight loss intervention programme who reported high internal disinhibition at screening. We conducted multivariate regression analyses by using mental and physical quality of life and satisfaction with relationships as dependent variables and examining the association of demographic variables, experiential avoidance (avoidance-based coping) and symptoms of depression. We hypothesized that higher levels of experiential avoidance and symptoms of depression would be associated with poorer mental and physical quality of life and relationship satisfaction. Post-hoc analyses examined results relative to non-obese norms.

Results

Both experiential avoidance and depression were significantly and independently associated with each of the three psychosocial outcome measures. Individuals who were high on both experiential avoidance and depression scored significantly below the population mean for non-clinical samples on mental and physical quality of life and relationship satisfaction.

Conclusion

In a sample of weight loss treatment-seeking adults with high internal disinhibition, elevated levels of experiential avoidance and psychological symptoms are prevalent. Adding intervention components specifically designed to address unhealthy coping could results in improvements in overall psychosocial functioning and possibly weight loss.

Keywords: Coping, depression, experiential avoidance, obesity.

Introduction

Obesity is associated with increased psychological symptoms (1) and reduced quality of life (2,3). Coping style appears to play a significant role in moderating the psychosocial functioning of persons with obesity. For example, Ryden and colleagues (4) examined a sample of 2510 persons with obesity and found that more passive and emotional styles of coping were associated with increased psychological distress, while problem-focused coping was related to reduced psychological problems connected with obesity. Another study of 2671 persons with obesity found that positive and active coping styles, as opposed to avoidant style coping, were associated with a reduced psychological impact of exposure to bias and discrimination due to weight (5). In general, individuals who show a tendency to engage in avoidant style behaviours are more likely to eat in response to emotions

(6–8), engage in binge eating (9,10) and avoid dieting and exercise (5,11,12), particularly when confronted with stressful life events (13–16). Although coping appears to play an important role in the psychosocial functioning of persons with obesity, there is little clarity and consistency in terms of how coping is characterized and studied in the obesity literature.

Experiential avoidance (EA) is a coping style characterized by the tendency to try to change or get rid of unwanted thoughts, feelings or bodily sensations (17). EA can be harmful because a rigid focus on short-term relief or comfort can sometimes come at the expense of long-term functioning. Elevated levels of EA are associated with a wide range of mental health (e.g. depression and anxiety) and behavioural health problems (e.g. smoking and chronic pain), and reducing EA mediates positive outcomes in these areas (18). For example, reducing EA mediates smoking cessation (19) and improves diabetes self-management (20). However, the role of EA in psychosocial outcomes for persons with obesity has received little attention despite its potential utility.

Experiential avoidance could be relevant particularly to persons with obesity who show evidence of disinhibition, which is the tendency to lose control over eating. A reanalysis of the widely used and well-established Eating Inventory disinhibition scale showed that it is better represented by two factors: internal disinhibition (ID), which is the tendency to eat in response to cognitive or emotional cues, a construct similar to emotional eating; and external disinhibition, which is the tendency to eat in response to environmental cues (6). In recent studies, both lower baseline levels of ID (6) and greater decreases in ID early in weight loss treatment (21) predicted better weight loss outcomes, whereas external disinhibition was not related to weight loss outcomes. Eating in response to cognitive or emotional cues is a good example of EA, where eating serves in part to regulate affect/cognition in the short term (e.g. feel better right now) at the cost of poorer health and often increased psychological symptoms over the long term. ID could be a marker for a general tendency to engage in EA.

The purpose of this study was to examine the relationship between EA and psychosocial outcomes using a sample of treatment-seeking overweight and obese adults who were selected for high ID.

Methods

Participants and procedures

Protocol approval was obtained from the Miriam Hospital Institutional Review Board, and all participants gave written informed consent. Participants were 162 overweight or obese adults entering a clinical trial of a behavioural weight loss intervention programme who reported high ID at screening. They were recruited through advertisements in local newspapers and direct mailings. Participants were excluded for medical conditions that precluded exercise, serious current psychological disorders (e.g. schizophrenia and bipolar), pregnancy or planned pregnancy, and logistical or behavioural issues that made regular attendance of group meetings unlikely. All participants completed a baseline assessment prior to entering treatment.

Measures

The baseline assessment, which forms the basis for this analysis, included standardized height and weight measurement and the completion of a battery of self-report questionnaires.

Body mass index

Height was measured to the nearest 0.1 cm using a wall mounted stadiometer. Body weight in light clothing and no shoes was measured to the nearest 0.1 kg on a digital scale.

Acceptance and Action Questionnaire-II

The Acceptance and Action Questionnaire-II (AAQ) is a seven-item Likert rating scale that assesses EA (22). Higher scores indicate more EA. The AAQ has good reliability and validity and is associated with a range of psychosocial outcomes (22).

Depression, quality of life and satisfaction with relationships

Depression, quality of life and satisfaction with relationships were assessed using standardized measures from the National Institutes of Health's Patient Reported Outcomes Measurement Information System (PROMIS) initiative (23). The *Depression-Short Form* measures depression using four self-report Likert scale items. Higher scores indicate more depression. The *PROMIS Global* form is a 10-item self-report measure that assesses physical and mental quality of life. Higher scores indicate better quality of life. The *Satisfaction with Relationships-Short Form* measures relationship satisfaction using four self-report Likert scale items. Higher scores indicate greater satisfaction with relationships. PROMIS measures are well established with population norms and good validity (23).

Analytic strategy

The primary goal of the current study was to examine the relationship between EA and three psychosocial outcomes: physical quality of life, mental quality of life and satisfaction with relationships. We began by performing

bivariate correlations with the AAQ, depression, demographic variables and psychosocial outcome measures. Next, we conducted a multivariate regression analyses for each of the three psychosocial outcomes as dependent measures: physical quality of life, mental quality of life and satisfaction. We controlled for the effect of demographic variables (age, body mass index [BMI] and gender) in these models and examined the independent effects of both EA and depression. Given that prior studies have shown that depression is associated with EA (17,22), quality of life (24,25) and social relationships (26,27), we were interested in determining whether EA had an effect on the psychosocial measures that was independent of depression and perhaps synergistic with it.

Results

Demographics and mean scores

The sample was 85% female with an average age of 50.2 (±10.9) years and BMI of 37.6 (5.3). Twelve percent of the sample endorsed a minority race or ethnic status (6% Latino/Hispanic, 5% African–American and 1% Asian). The following are the means and standard deviations on study measures: AAQ, 21.7 (7.8); depression, 7.6 (3.4); physical quality of life, 14.6 (2.1); mental quality of life, 13.1 (2.4); and satisfaction with relationships, 15.2 (3.4).

Bivariate correlations

Experiential avoidance, as measured by the AAQ, showed strong negative correlations with each of the three psychosocial outcome measures: physical quality of life ($r = -0.33$, $p < 0.01$), mental quality of life (-0.49, $p < 0.01$) and satisfaction with relationships (-0.47, $p < 0.01$). Depression was highly correlated with EA ($r = 0.61$, $p < 0.01$) and was also correlated with each of the three psychosocial measures: physical quality of life (-0.31, $p < 0.01$), mental quality of life (-0.56, $p < 0.01$) and satisfaction with relationships (-0.45, $p < 0.01$).

Multivariate regressions

Given the strong association between EA and depression and the fact that both were associated with each of the three outcome measures, we conducted multivariate analyses to determine whether each of these variables contributed to the outcomes and whether there was an interaction between the two. Given that demographic variables, such as age, gender and BMI, have been shown to be associated with quality of life and satisfaction with relationships, we included those variables in the model. Table 1 shows the results.

Both EA and depression were significantly and independently associated with each of the three psychosocial outcome measures. In the model for physical quality of life and satisfaction with relationships, the two variables seemed to have similar strength of association, while depression was stronger in the model for mental quality of life. The interaction was not significant in any of the analyses and was thus not reported in the final models.

Higher age was associated with a more positive report of all mental quality of life and satisfaction with relationships. Gender was not significant in any model. Higher BMI was associated with lower satisfaction with relationships.

Post-hoc analyses

As EA and depression were both significantly associated with psychosocial functioning, we examined the separate

Table 1 Regression results

Step	Variable	Quality of life: physical				Quality of life: mental				Satisfaction with relationships			
		b	ΔR^2	R^2	ΔF	*b*	ΔR^2	R^2	ΔF	*b*	ΔR^2	R^2	ΔF
1			–	0.14**	6.54**		–	0.28**	14.85**		–	0.27**	15.42**
	Age	0.16*				0.19**				0.21**			
	Gender	0.01				0.01				−0.01			
	BMI	−0.13				0.01				−0.19**			
	AAQ	−0.31**				−0.48**				−0.45**			
2			0.03	0.17	6.16**		0.09	0.37	18.51**		0.06	0.33**	14.93**
	Age	0.14				0.14*				0.18**			
	Gender	0.02				0.04				0.01			
	BMI	−0.13				0.03				−0.18*			
	AAQ	−0.21*				−0.23**				−0.29**			
	Dep	−0.19*				−0.40**				−0.26**			

*$p < 0.05$; **$p < 0.01$

AAQ, Acceptance and Action Questionnaire-II; BMI, body mass index; Dep, depression.

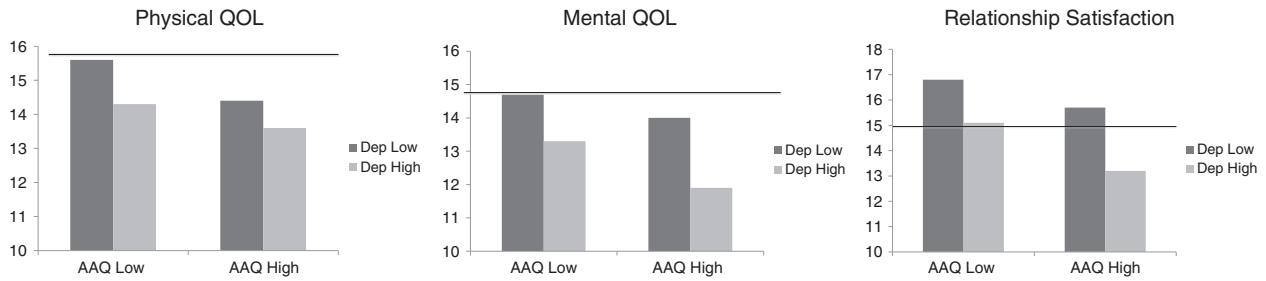

Figure 1 Post-hoc analyses. AAQ, Acceptance and Action Questionnaire-II; QOL, quality of life.

and combined association of being above established clinical norms. We first split our sample into "low" or "high" on the AAQ and depression using established norms ("high" = AAQ > 18.5; depression > 5), creating four categories: low AAQ/low depression ($n = 37$), low AAQ/high depression ($n - 24$), high AAQ/low depression ($n = 21$) and high AAQ/high depression ($n - 80$). Next, we examined mean scores in the four categories against published non-clinical norms for quality of life and satisfaction with relationships and plotted the scores out graphically. Figure 1 shows the results with the straight line showing the norm for non-clinical populations for each psychosocial outcome variable. As shown, individuals who were low on both AAQ and depression were on average reporting at non-clinical population means. Those who were high on both AAQ and depression were two-thirds of a standard deviation below the population mean for non-clinical samples on the quality of life measures and one-third of a standard deviation below for satisfaction with relationships.

Conclusions

The current study was a novel examination of the role of EA in the psychosocial functioning of overweight or obese persons who report high ID. EA showed strong, negative associations with physical quality of life, mental quality of life and satisfaction with relationships. Although the effects were reduced after adding depression into the model, EA continued to contribute significantly to all three measures even after controlling for depression. Depression was more strongly associated with mental quality of life than was EA, which makes sense given that mental quality of life is in part measuring the same construct. Thus, EA appears to play a strong role in psychosocial functioning of overweight and obese treatment-seeking individuals and has even more adverse associations with psychosocial functioning when combined with depression.

In this sample of persons with obesity who reported high ID, about one-fourth scored low on both depression and EA. These individuals were reporting quality of life and relationships that were on average about equivalent with the population mean for non-clinical samples. However, 49% of the participants scored high (above the norm) for both measures, thus reporting that both high levels of depression and EA occur quite frequently in this population. Overall, being high on both EA and depression was associated with substantial decrements in quality of life and satisfaction with relationships. Given the high prevalence and the impact, it is not a surprise that individuals who report high ID have shown worse outcomes in weight loss trials. This may be in part due to increased psychological symptoms and ineffective coping styles. Individuals with high ID may require additional intervention strategies focused specifically on reducing EA.

Currently, EA is not a target of treatment in standard weight control interventions. However, treatment technologies that effectively target EA exist (28), most notably acceptance and commitment therapy (ACT) (29). ACT produces positive behavioural health outcomes in areas such as smoking cessation, diabetes management and pain disability by reducing EA (18). Given that EA appears to be playing a role in the functioning of weight loss treatment-seeking individuals with high ID, ACT techniques could prove useful for enhancing outcomes. In addition, ACT is effective for treating depression (30,31), making it particularly relevant to a high ID sample. Preliminary evidence suggests that ACT techniques might be useful in augmenting weight control outcomes (32,33).

However, there is another reason to consider intervention techniques designed to reduce EA. Average weight loss in a standard behavioural intervention is roughly 7% (34), which leaves the majority of participants overweight or obese at the end of treatment. In addition, weight regain is common. Given how hard it is to lose and maintain weight loss, it could be helpful to include intervention components that can improve psychosocial functioning to help ease the lives of people who remain overweight or obese after treatment. It is possible that addressing issues of coping could also improve weight maintenance, as one pilot study has suggested (32).

It is important to note that age was significantly associated with mental quality of life and satisfaction with relationships, both in the positive direction. This result is

consistent with literature findings that quality of life can increase with age in the absence of severe health problems and disability (35,36). These results are most likely influenced by the age cut-off for our sample, which excluded elderly participants (above 70 years old). BMI is known to impact quality of life; however, our sample was selected for a weight loss study and thus has a restricted range of BMI, making it difficult to detect an effect for BMI. Despite our restricted range, BMI was still significantly associated with satisfaction with relationships. These findings are not surprising given that the social stigma of body shape increases with weight (37), and the consequences are more severe for women (38), which compromise 85% of our sample.

The primary limitation of this study is the use of cross-sectional data. Causation cannot be inferred from the reported analyses. In addition, we did not use "gold standard" measures of some constructs of interest (e.g. the Beck Depression Inventory-II for depression). The use of PROMIS measures was in part due to their brevity and in part due to the extensive normative data available to evaluate scores. Future research should use samples that include a broader range of disinhibition scores, examine the role of EA in a longitudinal study and also examine the effectiveness of reducing EA and depression in the context of a weight control intervention for individuals with high ID.

Conflict of Interest Statement

No conflict of interest was declared.

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