The Long-Term Efficacy of Three Psychotherapies for Anorexia Nervosa: A Randomized, Controlled Trial

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ABSTRACT

Objective: To evaluate the long-term efficacy of three psychotherapies for anorexia nervosa.

Method: Participants were women with broadly defined anorexia nervosa who had participated in a RCT comparing specialized psychotherapies (cognitive behavior therapy, CBT, and interpersonal psychotherapy, IPT) with a control condition (specialist supportive clinical management, SSCM), and attended long-term follow-up assessment (mean 6.7 years ± 1.2).

Results: Forty three of the original sample of 56 women participated in long-term follow-up assessment (77%). No significant differences were found on any pre-selected primary, secondary or tertiary outcome measures among the three psychotherapies at long-term follow-up assessment. Significantly different patterns of recovery were identified for the psychotherapies across time on the primary global outcome measure. Although SSCM was associated with a more rapid response than IPT, by follow-up all three treatments were indistinguishable.

Discussion: Potential implications for the timing of interventions to improve treatment response in anorexia nervosa are critically examined. © 2010 by Wiley Periodicals, Inc.

Keywords: anorexia nervosa; long-term efficacy; cognitive behavior therapy; interpersonal psychotherapy; specialist supportive clinical management

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Introduction

The long-term efficacy of specialized psychotherapies such as cognitive behavior therapy (CBT) and interpersonal psychotherapy (IPT) for adults with anorexia nervosa is unknown.[1] Only one controlled trial has published data evaluating the efficacy of different treatment approaches for anorexia nervosa among adults beyond one-year follow-up.[2] Given that anorexia nervosa is a disorder that can run a chronic course,[3] it is essential to evaluate the impact of treatment over the long term. Previously, we reported a randomized controlled trial comparing the efficacy of two specialized psychotherapies (CBT and IPT) and a control condition (specialist supportive clinical management, SSCM) for women with broadly defined anorexia nervosa treated as outpatients.[4] Contrary to our original hypothesis, we found that SSCM was superior to specialized psychotherapies at post treatment.[5] The present paper evaluates outcome at long-term follow-up assessment, and compares this with outcome at post-treatment, across the three psychotherapies.

Method

Participants

Participants were women aged 17–40 years with a current, primary diagnosis of anorexia nervosa. Participants were diagnosed with anorexia nervosa using the Structured Clinical Interview for DSM-IV,[6] and met either strict (body mass index [kg/m^2] <17.5 [DSM-IV]) or lenient (body mass index 17.5–19.0[4]) weight criteria. Individuals with a body mass index below 14.5 were considered unsuitable for outpatient treatment, and were referred to an inpatient unit. Given the debate as to the necessity of

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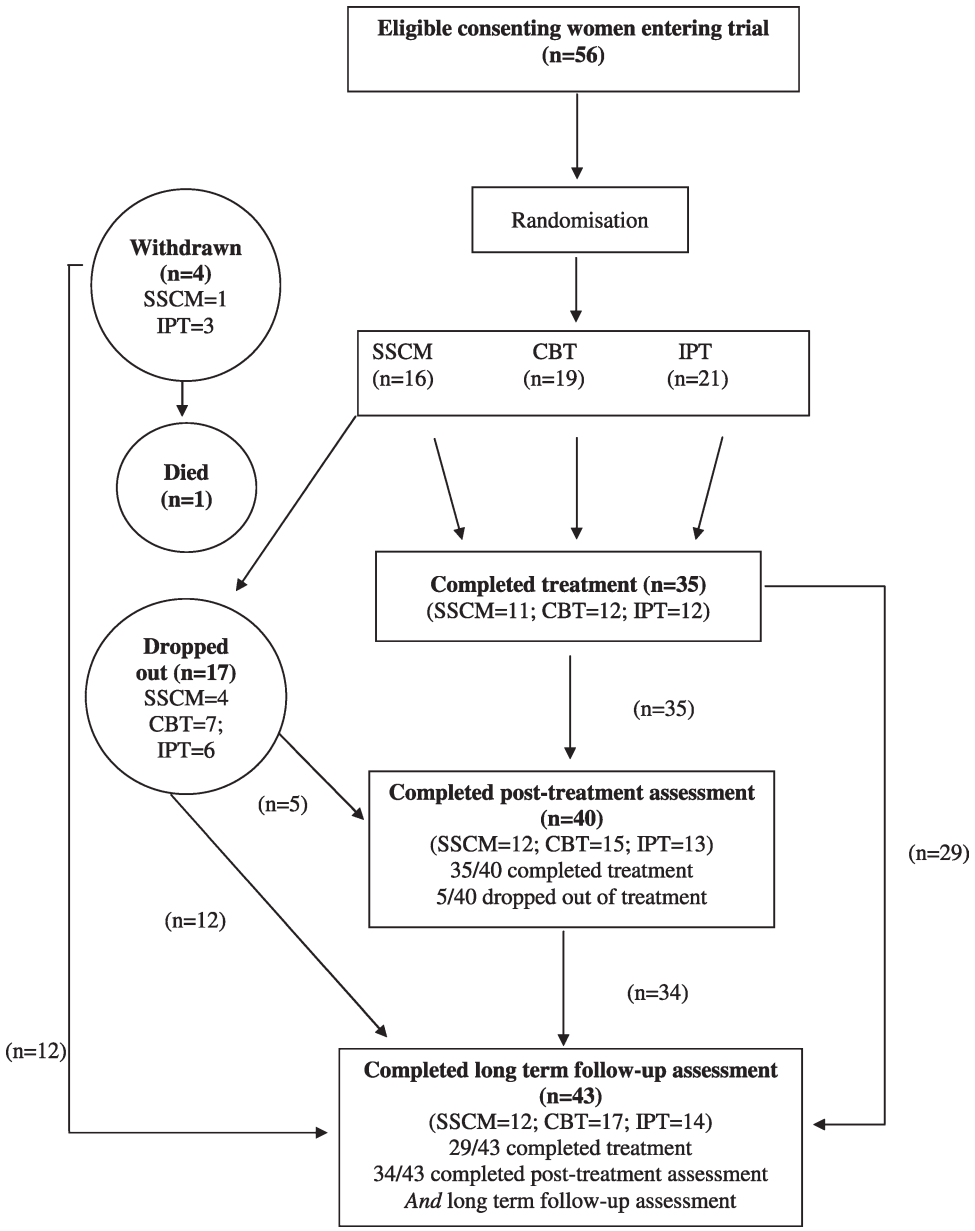
FIGURE 1. Schematic showing patient flow across time.



amenorrhea in diagnosing anorexia nervosa,[7,8] amenorrhea was not an inclusion requirement. Subsequent analysis of this sample showed that amenorrhea did not distinguish between participants diagnosed using strict versus lenient weight criteria.[9]

Exclusion criteria were current severe major depression, severe psychoactive substance dependence, major medical or neurological illness, developmental learning disorder, cognitive impairment, bipolar I disorder, schizophrenia, or a chronic, treatment-resistant course of anorexia nervosa. Individuals receiving a stable dose of antidepressant medication (SSRI) with no change in anorexia nervosa symptoms were included ($n = 2$).

Recruitment was broad based, and included self referrals and referrals from family members and health professionals. The study received ethical approval from the Southern Regional Ethics Committee, and written informed consent was obtained from participants. Details of the study sample, procedure, therapies, and outcome results have been published elsewhere.[5]

Overview of Study Design

Figure 1 shows a schematic of the study design. Following baseline assessment, participants were randomized to receive one of three psychotherapies: CBT, IPT, or SSCM. This article reports results for long-term follow-up

assessment, and compares these with outcome at post-treatment.

Therapies

The three therapies evaluated in this study have been described in detail elsewhere.[5] Therapy in each modality involved 20, 1 hour, manual-based sessions conducted over a minimum of 20 weeks.

CBT for anorexia nervosa was based on the premise that the core features of anorexia nervosa, food restriction, and avoidance become entrenched habit patterns, independent of the circumstances that initiated them.[10] A range of cognitive behavioral strategies were used including education, self-monitoring, prescription of normal eating, challenging dysfunctional thoughts, thought restructuring, and relapse prevention.

IPT for anorexia nervosa was based on IPT for both depression[11] and bulimia nervosa.[12] The approach included history taking relating to eating and interpersonal events, identification and examination of major problems within four interpersonal problem areas, and preparation for termination and independent coping.[13] In this study, the participant's presentation of eating disorder symptoms was used to facilitate work on the agreed interpersonal problems.

SSCM was developed for this study.[14] Its aim was to mimic outpatient treatment that could be offered to individuals with anorexia nervosa in usual clinical practice. It combined features of clinical management[15] and supportive psychotherapy[16] including education, care, support, fostering of a therapeutic relationship, praise, reassurance, and advice. A central feature of SSCM was a focus on the abnormal nutritional status and dietary patterns typical of anorexia nervosa. Normalization of eating and restoration of weight[17] were emphasized, and participants were provided with information on a range of strategies to promote this. Other therapy content was dictated by the participant, with the therapist constrained to avoid specific strategies or foci of CBT or IPT.

All psychotherapy sessions were audiotaped. Three randomly selected audiotapes for each participant were rated for adherence to the therapy protocol using an adaptation of the Collaborative Study Psychotherapy Rating Scale.[18] The three therapies were clearly distinguishable by raters unaware of therapy condition, and adherence to therapy was very satisfactory.[19]

Long-Term Follow-Up Assessment

Procedure. Participants were contacted and invited to attend a long-term follow-up assessment from five years following treatment onward, depending on their availability. Every effort was made to accommodate participants in order to complete the assessment interviews. In the first instance, face to face interviews were sought, either at The Clinical Research Unit or the participant's home, depending on participant preference. Telephone interviews were conducted where geographical difficulties were encountered. When participants were seen in person, they were weighed by the assessor using calibrated research scales. When telephone interviews were conducted, participants provided self-reported weights.

Measures. Preselected primary, secondary, and tertiary outcome measures were assessed at long-term follow-up. These were the same measures as used at pre- and post-treatment assessments. The primary outcome measure was a global anorexia nervosa measure developed for the study using a four-point ordinal scale: 4, meets full criteria for anorexia nervosa spectrum; 3, not full anorexia nervosa but having a number of features of eating disorders; 2, few features of eating disorders; 1, no significant features of eating disorders. Patients were categorized by the clinician who conducted the clinical interview. All ratings were reviewed with the other investigators to ensure consistency across raters.

Secondary outcome measures were physical, cognitive, and behavioral eating disorder measures. These included weight, body mass index, percentage body fat, subscales of the Eating Disorder Examination (EDE[20] restraint, eating concerns, weight concerns and shape concerns) and subscales of the Eating Disorders Inventory-2 (EDI[21] drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, distrust, interpersonal awareness, maturity fears, asceticism, impulse regulation, and insecurity).

Tertiary outcome measures were features of general psychopathology including The Global Assessment of Functioning (GAF; DSM-IV[22] p.32) and the Hamilton Depression Rating Scale (HDRS[23]).

Participants were also asked about treatment that they may have received over the follow-up period. They were asked about the nature of the treatment they had received, who had provided it, and whether the treatment they had received had been for eating difficulties or for some other sort of problem. Responses were coded as yes or no for the following variables: counseling/therapy, general practitioner, specialist eating disorder service [outpatient], hospitalization, support group, antidepressants and/or "other". This article presents data for treatment for eating difficulties over the follow-up period.

Data Analyses

Composite Outcome Variables.

Good versus Poor Outcome at Long-Term Follow-Up Assessment. The primary outcome measure, a four point ordinal scale assessing global outcome, was dichotomised to produce a variable indicating either "good

outcome" (global rating of 1 or 2) or "poor outcome" (global rating of 3 or 4).

Deteriorated/Stayed the Same/Improved Global Outcome from Post-Treatment to Long-Term Follow-Up Assessment. A measure was calculated to indicate outcome over time for each participant. Global outcome (good/poor) at post-treatment and global outcome (good/poor) at long-term follow-up assessment were compared for each participant, and participants were coded as having either deteriorated, stayed the same, or improved. For example, a participant with a poor outcome at post-treatment and a good outcome at long-term follow-up assessment would be coded as having improved.

Analysis Plan. The key goal of the analyses was to examine outcome at long-term follow-up assessment. Therefore, in the first instance, analyses involved all participants who had attended assessment/s. Following this, intention to treat analyses were conducted, carrying the last observation forward. Of the 13 participants who did not attend long-term follow-up assessment, seven did not attend post-treatment assessment or any subsequent assessments, two attended post-treatment assessment but no subsequent assessments, and four had attended an assessment at some time between post-treatment and long-term follow-up. Finally, analyses were conducted for the sub-group of participants who had completed treatment. The outcome measures assessed at long-term follow-up were determined *a priori*.

First, outcome at long-term follow-up assessment was examined. For the primary outcome measure, global outcome, chi square was used, and for the secondary and tertiary outcome measures, one way analysis of variance was used.

Second, change across time for the different therapies was examined (post-treatment and long-term follow-up). For the primary outcome measure, the Kruskal-Wallis test was used. When there was a significant difference among groups, pairwise comparisons were made using the Mann-Whitney U test. For secondary and tertiary outcome measures, repeated measures analysis of variance was used. The criterion for determining statistical significance was <0.05 in two-tailed tests. Analyses were conducted using SPSS.[24] This study had adequate (80%) power to detect between group effect sizes in excess of one, with two-tailed $\alpha = 0.05$.

Results

Participant Flow

Figure 1 shows a schematic of participant flow over time. Fifty-six eligible and consenting women entered the treatment trial and were randomized to either SSCM ($n = 16$), CBT ($n = 19$), or IPT ($n = 21$). Four women were withdrawn from the study for medical reasons, and a further 17 dropped out of treatment. One woman who had been withdrawn from the study subsequently died from complications of anorexia nervosa. She had been withdrawn from the study early in treatment and transferred to an inpatient service for treatment of her anorexia nervosa. She died following a long inpatient admission involving psychiatric and medical treatment.

Thirty-five of the initial 56 women completed treatment, which was defined as attending at least 15 of the 20 therapy sessions (SSCM = 11; CBT $n = 12$; IPT $n = 12$). All 35 women who had completed treatment, attended post-treatment assessment, plus five women who had not completed treatment ($n = 40$; 71.4%).

At long-term follow-up assessment, 43 of the initial 56 women participated in assessment (77%). Thirteen of the original 56 women who commenced the trial, did not participate in long-term follow-up assessment. Of these 13 women, six declined to be interviewed, six were unable to be contacted, and one woman had died.

Of the 43 women who participated in long-term follow-up assessment, 23 were assessed at The Clinical Research Unit, four were assessed in their own home, and 16 interviews were conducted over the telephone. Three of those women who were interviewed over the telephone subsequently came into the Clinical Research Unit to be weighed, in addition to providing self-reported current weights. Of the 43 women who participated in the long-term follow-up assessment, 34 had also participated in the post-treatment assessment (i.e., full data over time were available for them). Twenty-nine of these 34 women with complete data had previously completed treatment. Assessments were conducted on average 6.7 years ($\pm$1.2 years) following treatment.

Treatment Received Over the Follow-Up Period

Only a minority of participants had received treatment for eating difficulties over the follow-up period (29%). In descending order of frequency, participants received the following treatment for their eating difficulties over the follow-up period: counseling/therapy (14%), specialist eating disorder service [outpatient] (12%), general practitioner (7%), antidepressants (5%), hospitalization (5%), "other" (5%), and support group (2%). Patients were classified according to whether they had received any treatment for eating difficulties over

TABLE 1. Primary secondary and tertiary outcome measures for all participants who participated in long-term follow-up assessment, by treatment modality and for the group as a whole ($n = 43$)

	Long-Term Follow-Up																	
	SSCM ($N = 12$)				CBT ($N = 17$)				IPT ($N = 14$)				Total ($N = 43$)					
Outcome Measure	*N*/Mean		%/SD		*N*/Mean		%/SD		*N*/Mean		%/SD		*N*/Mean		%/SD		*p*	Effect Size[a]
Primary global outcome																		
1 (good)	3	5	25	42	5	7	29	41	4	9	29	64	12	21	28	49		
2	2		17		2		12		5		35		9		21			
3	5	7	42	58	8	10	47	59	4	5	29	36	17	22	39	51	0.37	0.09
4 (poor)	2		16		2		12		1		7		5		12			
Total	12		100		17		100		14		100		43		100			
Secondary																		
Weight (kg)	57.5		10.1		54.9		7.1		56.5		8.2		56.2		8.3		0.72	0.34
Body mass index (kg/m^2)	21.3		3.4		20.2		2.2		20.9		2.1		20.7		2.6		0.87	0.42
Body Fat (%)	23.8		8.7		19.7		4.6		24.0		9.1		22.9		8.0		0.55	0.51
Eating Disorder Examination																		
Restraint	2.5		1.7		1.3		1.7		1.4		1.2		1.7		1.6		0.11	0.75
Eating concerns	1.9		2.1		1.2		1.5		1.2		1.2		1.4		1.6		0.46	0.44
Weight concerns	2.0		2.0		1.8		1.7		1.7		1.5		1.8		1.7		0.90	0.18
Shape concerns	2.2		2.0		2.0		1.6		2.4		1.6		2.2		1.7		0.83	0.12
Eating disorders inventory																		
Drive for thinness	7.2		7.0		6.4		7.4		3.3		3.1		5.6		6.1		0.29	0.64
Bulimia	1.2		2.7		3.0		5.7		1.1		2.6		1.7		3.9		0.44	0.46
Body dissatisfaction	10.7		8.9		7.8		8.1		10.3		7.0		9.6		7.9		0.66	0.37
Ineffectiveness	6.9		8.7		5.1		6.0		3.3		3.4		5.1		6.3		0.41	0.57
Perfectionism	4.8		4.4		5.4		4.5		7.8		4.6		6.1		4.5		0.24	0.67
Distrust	2.5		4.7		3.9		4.2		3.4		4.1		3.3		4.3		0.73	0.33
Interpersonal awareness	3.6		4.6		4.4		4.7		1.8		1.9		3.2		4.0		0.27	0.45
Maturity fears	4.0		5.6		4.4		4.5		2.9		2.9		3.7		4.3		0.72	0.26
Asceticism	5.1		3.9		5.5		4.5		2.8		2.0		4.4		3.5		0.13	0.66
Impulse regulation	3.0		4.1		2.3		2.3		2.1		3.1		2.4		3.2		0.78	0.28
Insecurity	5.4		5.8		3.9		3.9		4.5		3.7		4.6		4.5		0.75	0.33
Tertiary																		
Global assessment of functioning score	65.1		17.5		65.2		15.9		66.5		12.6		65.6		15.0		0.96	0.09
Hamilton depression rating scale score	6.4		7.0		7.2		6.8		6.3		4.7		6.7		6.1		0.92	0.13

the follow-up period (yes/no). Differences among the treatment groups were not statistically significant, using chi square for this composite variable.

Outcome at Long-Term Follow-Up Assessment

Primary Outcome. **Table 1** shows the primary, secondary and tertiary outcome measures for the 43 women who participated in assessment at long-term follow-up. Effect sizes and *p* values are reported for primary, secondary, and tertiary variables. For the primary outcome measure, global outcome (1–4), the number and percentage of participants receiving each rating and the number and percentage of participants receiving a good outcome (global rating of 1 or 2) and a poor outcome (global rating of 3 or 4) are shown. Approximately half of the participants had a good outcome (49%). Differences among treatments at long-term follow-up assessment on global outcome were not statistically significant, using chi square.

Differences among treatments at long-term follow-up were also not significant using an intention to treat analysis, or an analysis involving the subgroup of women who had completed treatment.

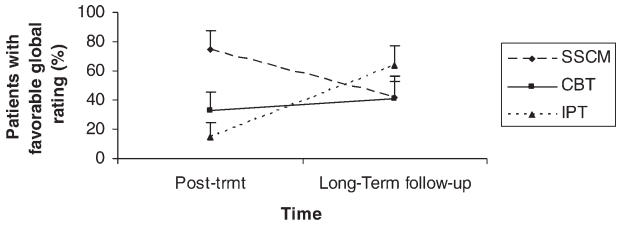
Secondary and Tertiary Outcomes. **Table 1** shows the mean values (SD) on secondary and tertiary outcome measures for the 43 women who participated in long-term follow-up. One way analysis of variance reveals no significant differences on any of the secondary or tertiary outcome measures across the three therapies at long-term follow-up assessment.

No significant differences on any of the secondary or tertiary outcome measures across the three therapies at long-term follow-up assessment were identified using an intention to treat analysis, or an analysis involving the subgroup of women who had completed treatment.

Changes Across Time for Different Therapies

Primary Outcome. **Figure 2** shows the percentage of participants with a good outcome (global rating of 1 or 2) at post-treatment and long-term follow-up, for all participants who attended assessment. At pretreatment, all participants by definition had a poor global rating score. At post-treatment, participants randomized to SSCM were the most likely to have a good outcome (75%), followed by CBT (33%)

FIGURE 2. Percentage of participants (+SE) with favorable outcome at post treatment and long-term follow-up assessment by treatment modality for all women who completed assessments.



and IPT (15%). At long-term follow-up, participants randomized to IPT were the most likely to have a good outcome (64%) followed by SSCM (42%) and CBT (41%).

The Kruskal-Wallis test was used to examine the impact of time and therapy on global rating. The independent variable was therapy. The dependent variable was the calculated variable indicating whether individual participants had deteriorated, stayed the same, or improved. The analysis was conducted for all participants who attended both post-treatment assessment and long-term follow-up assessment ($n = 34$). An overall significant effect was found ($p = 0.02$). This shows that the different therapies had significantly different patterns of change over time on this measure. Mann-Whitney U tests showed that these differences were significant between SSCM and IPT psychotherapy ($p = 0.03$), but not between SSCM and CBT therapy or between CBT and IPT ($p \geq 0.05$). Participants randomized to SSCM were more likely to have a good outcome following treatment, but to deteriorate over long-term follow-up. Participants randomized to IPT showed the opposite pattern of results. These participants were more likely to have a poor outcome at post-treatment, but to have improved by long-term follow-up assessment.

The same results as above were found using an intention to treat analysis and an analysis involving the subgroup of participants who had completed treatment, with the exception that the completers analysis showed an additional significant difference between CBT and IPT ($p = 0.03$). Participants randomized to IPT were more likely to have improved between post-treatment and long-term follow-up assessment.

Secondary and Tertiary Outcomes. Repeated measures analysis of variance was used to examine the impact of time (change between post-treatment and long-term follow-up assessment), therapy (SSCM, CBT, and IPT), and the interaction of time and therapy, on secondary and tertiary outcome measures.

These analyses were conducted for all participants who attended both post-treatment assessment and long-term follow-up assessment ($n = 34$). Significant main effects were found for time on the following measures weight ($F = 13.6$, $p = .001$), body mass index ($F = 12.7$, $p = .001$), EDI body dissatisfaction subscale ($F = 8.1$, $p = .01$), EDI maturity subscale ($F = 11.2$, $p = .003$), EDI insecurity subscale ($F = 7.6$, $p = .01$) and Global Assessment of Functioning ($F = 13.8$, $p = .001$). Change over time approached significance for the Eating Disorder Examination restraint subscale ($F = 4.4$, $p = .05$). All of these changes indicate improvement over time (i.e., gain in weight and body mass index, and less pathology on self-report measures, at follow-up).

A significant time $\times$ therapy interaction was found for the Eating Disorder Examination restraint subscale ($F = 5.25$, $p = .01$), with significant differences between SSCM and IPT ($F = 14.4$, $p = .001$) and SSCM and CBT ($F = 5.6$, $p = .03$), but not between CBT and IPT ($F = .43$, $p \geq .05$). Examination of the means shows that those randomized to SSCM showed an increase in pathology over time on the Eating Disorder Examination restraint subscale, whereas those randomized to CBT or IPT showed a decrease in pathology over time on this measure. No other significant time $\times$ therapy interactions were found.

Similar results were found for the intention to treat analysis and for the analysis involving the subgroup of patients who had completed treatment. In addition to the significant main effects reported above, both the intention to treat analysis and the completers analysis found a significant main effect for the Eating Disorder Examination restraint subscale (intention to treat analysis: $F = 3.6$, $p = .03$; completers analysis: $F = 4.8$, $p = .04$). The completers analysis also found a significant main effect for EDI perfectionism ($F = 5.6$, $p = .03$) and a significant time $\times$ therapy interaction was found for EDI drive for thinness ($F = 4.1$, $p = .03$).

Discussion

This study examined the long-term outcome for women with broadly defined anorexia nervosa treated as outpatients as part of a randomized controlled trial.[4] Specifically, outcome was evaluated at long-term follow-up, and was compared with outcome at post-treatment, across three psychotherapies: SSCM, CBT, and IPT. Long-term follow-up assessments were conducted on average 6.7 years

(±1.2 years) following treatment. In the first instance, analyses examined outcome at long-term follow-up assessment for all participants who had attended assessment/s. These findings are reported below. Additional analyses were conducted including an intention to treat analysis (last observation carried forward), and an analysis of the subgroup of participants who had completed treatment. Overall, very similar results were obtained regardless of which analyses were conducted.

First, outcome at long-term follow-up was examined. Approximately half of the women assessed had a "good" outcome on the preselected primary outcome measure assessing global outcome at long-term follow-up assessment. No significant differences were found on any pre-selected primary, secondary, or tertiary outcome measures among the three psychotherapies at long-term follow-up assessment. Although the study only had adequate power to detect large effect sizes (>1.0), examination of the between group differences shows that in the majority of cases the differences were in the small-moderate range (<0.5). It is not possible to compare the present results with other long-term follow-up studies involving specialized psychotherapies for adults with anorexia nervosa, as this is the only study known to have evaluated this issue.

Second, outcome at post-treatment was compared with outcome at long-term follow-up for the three treatment groups. Significantly different patterns of recovery were identified for the different therapies. For the primary outcome measure, global outcome, participants randomized to SSCM were significantly more likely to have a good outcome at post-treatment than participants randomized to IPT. However, at long-term follow-up, they were more likely to have deteriorated and to have a poor global outcome rating then patients randomized to IPT. The opposite pattern of results was found for participants randomized to IPT. These participants had the poorest global outcome rating at post-treatment, but had the best global outcome rating at long-term follow-up. Participants randomized to CBT had a more stable course. At post-treatment, patients randomized to CBT had an intermediate global outcome rating (not significantly different from either SSCM or IPT), and were likely to have improved by long-term follow-up, although not as commonly as those randomized to IPT. This general pattern of results was also found for secondary and tertiary outcome measures, although few reached statistical significance.

It is possible that significantly different patterns of recovery over time reflect a "lag" effect for IPT. Studies involving participants with bulimia nervosa have found that IPT is slower at producing improvement on some measures than CBT.[25–28] In this study, patients receiving IPT evidenced improvement at a slower rate than those receiving SSCM, but not at a significantly slower rate than CBT. Because the participants randomized to IPT were doing less well at post-treatment in comparison with those randomized to SSCM, they had more room to improve over long-term follow-up. The most parsimonious explanation for the present findings is that they reflect a regression to the mean over time.

Potential implications can be drawn from the present findings. Of note, approximately half the sample had a poor outcome at long-term follow-up assessment, and one participant had died. These sobering results highlight the pernicious nature of the disorder, and the need to continue to develop treatment approaches that improve the chances of a good outcome. It is also important to continue to search for approaches that may be more acceptable to people with anorexia nervosa. The importance of factors outside treatment also continues to be important. Despite the fact that approximately half of the women assessed at follow-up had a poor outcome, only a minority of participants had received treatment for eating difficulties over the follow-up period (29%). These results raise the issue of whether a "stepped" approach to treatment may be advantageous. It appears that SSCM could be considered the treatment of choice in the first instance for broadly defined anorexia nervosa, in order to promote early improvement. However, it may be useful to sequence SSCM with broader based approaches such as IPT that examine the context of the eating disorder, once initial improvements have been made. It is possible that approaches such as IPT and CBT provide strategies that can generalize better to wider life stressors as they arise, whereas SSCM focuses more on immediate weight restoration and current issues that the patient chooses to raise. However, this study did not evaluate a stepped approach, and so any comments about the potential benefit of such an approach are speculative.

This study has a number of limitations. First, the sample size is small. Fifty six participants commenced the trial and 43 completed long-term follow-up assessment. Although the study was powered to detect large effect sizes, only small-moderate effect sizes were found in the majority of cases. Despite these small numbers, this study is one of the largest known randomized controlled trials to examine the effectiveness of psychotherapy for adults

with anorexia nervosa. Second, treatment was relatively short. Treatment involved 20 sessions over 20 weeks, which for a disorder that can be chronic and disabling[29] may not be sufficient. Third, the present analyses report outcome at post-treatment and at long-term follow-up assessment. However, they do not report changes within the follow-up period, and therefore cannot explain when within the follow-up period these changes occurred.

In conclusion, no significant differences were found among CBT, IPT, or SSCM at long-term follow-up assessment for outpatient treatment of broadly defined anorexia nervosa.

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