**Supplemental Results I: Treatment integrity**

Table 1: Psychotherapy for TRD when substituted for TAU; adherence and competence of psychotherapy arms

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| **Author, year** | **Adherence and competence** |
| (Keller *et al.*, 2000) | Psychotherapy sessions were videotaped, and supervisors reviewed the videotapes weekly to assess adherence. Psychotherapists had at least two years of experience after earning a M.D. or a Ph.D., or had at least five years of experience after earning an M.S.W. Prior to the study therapist attended a two-day training workshop and met the criteria for mastery of treatment procedures involved in the cognitive behavioral-analysis system of psychotherapy, as assessed by evaluation of their performance during two videotaped pilot cases. |
| (Thase *et al.*, 2007) | Over the course of the study, case conceptualizations, problems implementing cognitive therapy and treatment strategies were reviewed through monthly group supervision. If therapists experienced significant problems, additional individual supervision was scheduled. Before therapist could participate in the study, therapists had to demonstrate competence (documented by fidelity ratings on the Cognitive Therapy Scale) in the treatment of one patient who would have been eligible to participate in STAR\*D. Prior to the study, therapists received relevant readings and attended a 2-day workshop conducted by study investigators. |
| (Schramm *et al.*, 2015) | Over the course of the study, therapists were monitored for adherence through regular group supervision and all sessions were videotaped and reviewed by the supervisor. Prior to the study, therapists had 48 units (1 unit = 45 min) of didactic training in CBASP and had treated an average of 7 patients with CBASP. |

CBASP = Cognitive Behavioral Analysis System of Psychotherapy

Table 2:

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| **Author, year** | **Adherence and competence** |
| (Barker et al., 1987) | No information on adherence and competence was provided. |
| (Paykel *et al.*, 1999, Scott *et al.*, 2000) | Psychotherapy sessions were audiotaped and adherence and competency were rated on the Cognitive Therapy Ratings Scale (CTRS) by an independent rater. The median CTRS score was 54, with no rating below 39 (the accepted threshold level), and no significant differences between therapists. In addition, there was regular joint therapist supervision. Therapist all had a recognized diploma from a post qualification training center and at least 4 years of CT experience. Prior to the study there was preliminary training. During the study there was regular joint therapist supervision. |
| (Keller *et al.*, 2000) | Psychotherapy sessions were videotaped, and supervisors reviewed the videotapes weekly to assess adherence. Psychotherapists had at least two years of experience after earning a M.D. or a Ph.D., or had at least five years of experience after earning an M.S.W.. Prior to the study therapist attended a two-day training workshop and met the criteria for mastery of treatment procedures involved in the cognitive behavioral-analysis system of psychotherapy, as assessed by evaluation of their performance during two videotaped pilot cases. |
| (Kennedy *et al.*, 2003) | No information on adherence and competence was provided. |
| (Thase *et al.*, 2007) | Over the course of the study, case conceptualizations, problems implementing cognitive therapy and treatment strategies were reviewed through monthly group supervision. If therapists experienced significant problems, additional individual supervision was scheduled. Before therapist could participate in the study, therapists had to demonstrate competence (documented by fidelity ratings on the Cognitive Therapy Scale) in the treatment of one patient who would have been eligible to participate in STAR\*D. Prior to the study, therapists received relevant readings and attended a 2-day workshop conducted by study investigators. |
| (Schramm *et al.*, 2007) | Psychotherapy sessions were videotaped. All therapists had completed (or were in an advanced stage of) 3 years of psychotherapy training. Prior to the study, the therapists had had training in IPT and were monitored for adherence through weekly group supervisions. |
| (Wong, 2008) | Psychotherapy sessions were videotaped and session 1, 4, 8 were reviewed by two independent observers. The reviewing process was based on a checklist with the tasks that had to be completed in these three sessions according to the treatment manual. The two observers agreed on all tasks completed by the therapists of the study. The therapist were three experienced mental health social workers, two were teaching staff at universities, one was a qualified cognitive therapist trained at the Beck Institute in the United States, and had a postgraduate training in mental health. |
| (Harley *et al.*, 2008) | Therapist had at least 7 years of experience with leading DBST groups. Prior to the study the therapist received 10-day DBST workshop conducted by certified senior DBST trainers.  |
| (Kocsis *et al.*, 2009) | Psychotherapy sessions were videotaped, and adherence and competence were reviewed by McCullough and the site supervisors using a CBASP Therapist Adherence Rating Scale. CBASP therapists and supervisors were trained and certified in CBASP by James McCullough. Therapists received weekly supervision. Therapists had at least 2 years of clinical experience after their psychiatric residency or had completed a PhD program, or had at least 5 years of experience after completing a master degree in social work. The BSP therapists’ professional degrees, amount of clinical experience, training, and supervision were comparable to those of the CBASP therapists.  |
| (Barnhofer *et al.*, 2009) | During the course of the study, regular supervision was provided by one of the developers of the program, who monitored adherence to the treatment protocol. The CBT therapist was trained in Mindfulness- Based Stress Reduction through an internship at the Center for Mindfulness in Medicine, Health Care and Society at the University of Massachusetts, Worcester, Medical Center (TB). |
| (Murray *et al.*, 2010) | Treatment adherence was monitored by live observation and feedback from a senior therapist. Therapists were trained by the project leaders. |
| (Watkins *et al.*, 2011) | Psychotherapy sessions were audio recorded. Every two weeks, supervision was provided to maintain adherence and competence. The supervisor used a brief checklist of treatment adherence (scored 1 if rumination-focused CBT was the dominant therapeutic approach; 0 if other therapy modes predominant). All sessions were scored 1. Therapist had either received at least 12 months prior supervision in CBT or had been therapists during the previous case series. |
| (Strauss *et al.*, 2012) | Adherence was monitored by the last author through weekly supervision. Therapy groups had a lead therapist, experienced in running PBCT groups, and a second therapist with experience of either PBCT or MBCT groups. |
| (Wiles *et al.*, 2013) | Psychotherapy sessions were audio recorded. Adherence was assessed with the Cognitive Therapy Rating Scale (CTRS) by three independent raters. Mean CTRS scores were 38.8 (95% CI 36.7 – 40.8) using a random sample of 54 sessions. Therapist received weekly supervision. Therapist had a mean experience of 9.7 years (SD 8.1). Prior to the study, therapist received at least 1 day of training specific to the trial from an experienced CBT therapist and trainer.  |
| (Rohricht *et al.*, 2013) | The therapist received supervision from a senior therapist after sessions 3, 8, 13 and 18. The therapist was an experienced dance movement therapist. Prior to the study, the therapist had a two-day manual training including an introduction, a workshop and a seminar. |
| (Wiersma *et al.*, 2014) | Psychotherapy sessions were audio recorded. Therapists received weekly supervision. Supervisors reviewed parts of the audiotapes during the supervision meetings to monitor adherence. The supervisors received supervision as well via videoconferences by McCullough. Therapist had at least 2 years of (postmaster) experience in specialized mental health care. Prior to the study therapist received a 4-day workshop in which the basic techniques of CBASP were taught by James McCullough Jr. Subsequently, a subsample of these therapists were trained by McCullough to become officially certified CBASP supervisors. After 2 years, all therapists received an additional 4-day workshop by Mc-Cullough, to refresh and refine their skills. |
| (Michalak *et al.*, 2015) | Psychotherapy sessions were videotaped (site A) or audio recorded (Site B). Adherence and competence were rated for sessions 4 and 7 using the Mindfulness-Based Cognitive Therapy Adherence Scale for MBCT and the CBASP Adherence Scales for CBASP. For MBCT adherence was confirmed with a score of 1.88 for Site A and a score 1.71 for Site B (scale range: 0–2). For CBASP, adherence was confirmed with a score of 4.62 for Site A and a score of 4.90 for Site B (scale range: 1–5). Competence of MBCT was examined using the Mindfulness-Based Interventions Teaching Assessment Criteria. Competence was good in MBCT, as indicated by an average overall score of 5.10 for Site A and for 4.71 Site B (scale range: 1–6). Competence of CBASP was examined using the Quality of the Interpersonal Relationship subscale of the CBASP Adherence Scales. Competence was good in CBASP, as indicated by a score of 4.77 for Site A and 4.94 for Site B (scale range: 1–5). At site A, there was one certified MBCT therapist with 20 years of mindfulness practice and 12 MBCT courses before the start of the study. At Site B, there were two MBCT therapists: one was certified in MBCT with 20 years of mindfulness practice and seven MBCT courses before the start of the study, and the other had 5 years of mindfulness practice and two MBCT courses before the start of the study. All MBCT groups were supervised by Johannes Michalak. A certified CBSAP therapist conducted the Site A and had no experience in conducting CBASP groups before the beginning of the study. At Site B, there was a certified CBASP therapist that conducted four CBASP groups before the beginning of the study. All CBASP groups were continuously supervised by Elisabeth Schramm. |
| (Fonagy *et al.*, 2015) | Psychotherapy sessions were audio recorded. Adherence was assessed with the 100-item Psychotherapy Process Q-Sort using three randomly selected sessions from the early, middle and end phases of each treatment (183 sessions in total). In 82.2% of the sessions, the therapy resembled the psychodynamic prototype and the remainder (17.8%) best resembling the CBT prototype. Therapists had on average 17.45 years of experience and had a mental health qualification and a training approved by the British Psychoanalytic Council.  |
| (Chiesa *et al.*, 2015) | The therapist received weekly supervision from a senior MBCT instructor. The therapist had a 1-year mindfulness professional training led by his supervisor who had previously received training in MBSR and MBCT at the Centre for Mindfulness and at the Oxford Mindfulness Centre respectively. The MBCT instructor had conducted three supervised MBCT groups for MD patients prior to the initiation of this study.  |
| (Eisendrath *et al.*, 2016) | Psychotherapy sessions were audio recorded. MBCT adherence and competence were examined with the MBCT adherence scale using three randomly selected recordings per group. Mean adherence ratings per item were 1.79 (SD = 0.06) (scale range: 0–2). The mean competency ratings per item were 4.95 (SD = 0.02) on the MBCT competency scale (maximum of 5 points). Based on the results of adherence and competency measures, therapist received feedback by the principal investigator when needed during weekly supervision. Therapist had at least 3 years of experience. |
| (Souza *et al.*, 2016) | Psychotherapy sessions were audio recorded. Therapists received weekly supervision by a senior IPT psychiatric therapist. All therapists received at least one year of IPT training before the trial. |

IPT = Interpersonal Therapy, DBTST = Dialectic Behaviour Therapy Skills Training, CBASP = Cognitive Behavioral Analysis System of Psychotherapy, BSP = Brief supportive psychotherapy, CBT = Cognitive Behavior Therapy, PBCT = Person-Based Cognitive Therapy (integrates CBT with mindfulness practice), MBCT = Mindfulness Based Cognitive Therapy, MCSR = mindfulness based stress reduction