

Intensive Short-term Dynamic Psychotherapy: A systematic review and meta-analysis of outcome research. Abbass A, Driessen E, Town J. *In Press* Harvard Review of Psychiatry

Abstract

Habib Davanloo has spent his career developing and teaching methods to accelerate dynamic psychotherapy, including his technique of Intensive Short-term Dynamic Psychotherapy (ISTDP). Over the past twenty years, outcome studies using this treatment have been conducted and published. We performed a systematic review of the literature to obtain studies presenting ISTDP outcome data. We found twenty-one studies (ten controlled, eleven uncontrolled trials) reporting the effects of ISTDP in patients with mood disorders, anxiety disorders, personality disorders and somatic disorders. We performed meta-analyses using the random effects model including thirteen of these studies and found pre to post-treatment effects sizes (Cohen's d) ranging from 0.84 (interpersonal problems) to 1.51 (depression). Post-treatment to follow-up effect sizes suggested that these gains were maintained at follow-up. Based on post-treatment effect sizes, ISTDP was significantly more effective than control conditions ($d = 1.18$; general psychopathology measures). Study quality was highly variable and there was significant heterogeneity in some analyses. Eight studies using various measures suggested ISTDP was cost effective. Within limitations of study methodologies, this evidence supports the application of ISTDP across a broad range of populations. Further rigorous and targeted research into this method is warranted.

Introduction

Psychodynamic psychotherapy concerns itself with identifying and addressing unconscious emotions and processes which result in a broad range of symptoms (anxiety, depression and somatic) and character problems. Through recognition of these processes and working through the emotions and content, the patient can be freed of the effects of the past and form relationships, with reduced symptoms in the process¹.

Short-term Psychodynamic Psychotherapies have been developed and researched over the past 40 years to allow more efficient psychodynamic treatment of greater numbers of patients compared to longer-term psychoanalytic therapies². These treatments have undergone quite extensive research including about a dozen meta-analyses showing, in general, large effects (Cohen's $d > 0.80$) which persist in follow-up for mixed-³, somatic-⁴, depressive-⁵, and personality-disordered⁶ patients.

Dr. Habib Davanloo has been one of the main proponents of short-term psychodynamic psychotherapy techniques⁷. In the 1970s he developed "Short-Term Dynamic Psychotherapy", a treatment with active interventions, including challenge and confrontation to defences, to mobilize underlying, unresolved emotions. This early treatment was found to be clinically effective with select patient populations including up to 35% of psychiatric outpatients⁷. However, patients presenting with low anxiety tolerance, major depression and somatization, were not suitable for this early treatment iteration⁷. In the 1980's Davanloo refined and augmented the method to allow

treatment of these more complex patients and called the treatment Intensive Short-term Dynamic Psychotherapy (ISTDP) ⁸. This augmentation included a process to first build anxiety tolerance which he termed the “graded format” ^{8,9}. To extend the treatment to patients with primarily primitive defenses including projection and projective identification, Davanloo developed a further preparatory phase of bringing about “multi dimensional structural changes in unconscious anxiety and defense” ¹⁰. Altogether, with application of ISTDP to these populations, 86.3% of 342 consecutive referrals to an outpatient psychiatric practice were considered candidates for ISTDP ¹¹.

Davanloo described a set of typical events that lead to rapid access to unconscious emotions and called this a “Central Dynamic Sequence”. He found that by actively focusing on unconscious feelings and defenses used to avoid these feelings, a set of complex feelings were activated. These feelings included deep appreciation but also irritation about the therapist’s efforts: these emotions, called the “complex transference feelings”, hearkened back to attachments and feelings associated with interruptions to these attachments in the patient. When these mixed emotions were activated, anxiety and defenses moved in to block the awareness of these feelings. With specific efforts, including challenge and “head on collision” with the resistances, the patient was turned against his defenses and these feelings were then experienced with visceral and cognitive components. Once the feelings were experienced, the anxiety about the feelings dropped abruptly and the defenses were therefore reduced. Davanloo discovered that this process mobilized a healing force in the patient which produced linkages to and mental images of unconscious unresolved content: he called this the “Unconscious Therapeutic Alliance” ¹². This process has been called “unlocking the unconscious”, a term many patients use to describe this access to previously unprocessed emotions ⁸. The process of experiencing these emotions and developing insight into the relationship between the emotions, anxiety and defenses allowed symptom reduction and behavioral change to take place: thus, anxiety, depression and personality disorders were theoretically treatable with ISTDP to the extent they tie in to underlying unprocessed emotions. For details of the treatment method, readers are referred to his latest article ¹⁰.

Davanloo studied ISTDP through extensive use of video technology starting in the 1970’s ¹³. Through retrospective examination of videotapes from patients who responded to treatment compared with those who did not, he was able to refine the technique as described above. This involved using a dismantling procedure, leaving out or adding in specific interventions with groups of patients, then following up to examine the effects of these as ingredients of change. He further used patient feedback derived while viewing his or her own treatment sessions to inform the development of ISTDP. He has thus emphasized detailed, individual case-based study as the central vehicle for training, research and ongoing quality improvement in ISTDP. Davanloo reported in his initial case series that 83% of one hundred and forty-three mixed psychiatric patients responded to ISTDP ⁷ with “symptomatic” and “personality” changes that persisted in those followed up for 2-9 years ⁷. However, the lack of standardized self-report measures in this series from the 1970s onward limits comparisons that can be made with subsequent empirical studies of ISTDP.

Various researchers have examined and corroborated Davanloo’s main findings. ISTDP begins with a specialized assessment interview called a “trial therapy”. This trial

therapy, which provides a thorough evaluation of the client and tests suitability for ISTDP, has been characterized and evaluated¹⁴⁻¹⁶. Early studies characterizing ISTDP found it to be an active and involved process¹⁷⁻¹⁹, with highly focused therapist activity consistent with exploring and confronting self-defeating patterns²⁰. Further study found ISTDP outcomes to be linked to a reduction in patient defenses and increased expressed affect²¹ and degree of emotional mobilization^{11,22}.

After Davanloo presented his videotaped cases series from the 1970's to the 1980's, the stage was set for others to study the method's clinical effectiveness. To our knowledge, no systematic review has been conducted to examine the effectiveness of ISTDP. The purpose of the present paper is therefore to both provide a comprehensive review of the current empirical literature and to examine the effectiveness of ISTDP by meta-analyzing available outcome data.

Methods

Search Strategy

Following literature searches for four meta-analyses of Short-Term Psychodynamic Psychotherapy (STPP)³⁻⁶, we screened the full-texts of all candidate studies identified through these searches for studies meeting our inclusion criteria. Two of the authors, both experienced dynamic psychotherapy clinicians and researchers, independently reviewed papers to establish study eligibility. Disagreements were discussed and consensus agreement reached. In order to identify any studies published after the previous search dates and to detect studies not meeting criteria for previous meta-analyses, a new electronic search of all studies in PsycINFO and CINAHL without date restrictions, using the search terms 'davanloo' (146 hits), 'short term dynamic psychotherapy' (355 hits) and 'intensive short term dynamic psychotherapy' (163 hits) was conducted. The search was repeated in MEDLINE resulting in 142 hits ('davanloo' 15; 'short term dynamic psychotherapy' 119; 'intensive short term dynamic psychotherapy' 8) and the references from the articles found were examined for candidate studies. Finally, networks of psychodynamic psychotherapy researchers were contacted to identify any new or in press publications.

Study Selection

We included any published paper with outcome data on a brief psychodynamic therapy referencing Davanloo's textbooks or technical articles in its description of the treatment delivered. The treatment could have been employed alone or alongside other STPP variants within the treatment description. We used broad selection criteria including randomized controlled trials (RCTs), as well as non-randomized controlled trials and studies with naturalistic designs in order to allow the maximal identification of data for review. Studies delivering treatment in both individual and group format were included. In addition, no restrictions were applied with regard to the patient population, nor with regard to time period, culture or geographical location in which the study was conducted.

Meta-analysis

We conducted three different meta-analyses, 1) assessing pre- to post-treatment change, 2) assessing post-treatment to follow-up change, and 3) assessing the comparison of ISTDP and control conditions at follow-up. Effect sizes (Cohen's d) were computed for each of the primary studies^{23,24}. As correlations across time-points were generally not reported, we decided to use Cohen's d for the repeated measures comparisons as well as the independent group comparisons as recommended by Dunlop and others²⁵. Pre- to post-treatment ISTDP effect sizes were calculated by subtracting the average post-treatment score from the average pre-treatment score and dividing the result by the pooled standard deviations of both groups. Post-treatment to follow-up ISTDP effect sizes were calculated by subtracting the average follow-up score from the average post-treatment score and dividing the result by the pooled standard deviations of both groups. The comparative effect sizes of ISTDP with control groups at post-treatment was calculated by subtracting the average score of the alternative condition from the average score of the ISTDP condition and dividing the result by the pooled standard deviation of both conditions. When data was not available to calculate effect sizes, the study was excluded from the meta-analysis. Effect sizes of 0.2 are considered small, whereas effect sizes of 0.5 are considered moderate, and effect sizes of 0.8 or above are large²³.

We used measures of general psychopathology, interpersonal functioning, depression, and anxiety as outcome categories. Only instruments explicitly measuring these constructs were used in the effect size calculations. If more than one instrument was used to assess a given outcome category within a study (for example Hamilton and Beck depression rating scales in the same study), a mean effect size for the different measures in this category was computed. We calculated the pooled mean effect sizes and their confidence intervals by means of the procedures implemented in the computer program Comprehensive Meta-analysis (version 2.2.021; Biostat, Englewood, NJ, USA). We used the random effects model to compute pooled mean effect sizes, as considerable heterogeneity of the included studies was expected. The random effects model results in broader 95% confidence intervals (95% CI) and more conservative results.

To measure homogeneity, we calculated the Q -statistic. A significant Q -value rejects the null hypothesis of homogeneity. We also calculated the I^2 -statistic, which is an indicator of heterogeneity in percentages. A value of 0% indicates no observed heterogeneity, and larger values show increasing heterogeneity, with 25% indicating low, 50% indicating moderate, and 75% indicating high heterogeneity²⁶.

Statistical outliers were identified by visual inspection of the forest plot. We considered a study an outlier if the 95% confidence interval of this study does not overlap with the 95% confidence interval of the pooled mean effect size. When an outlier was identified, mean pooled effect sizes were calculated both including and excluding the outlier study. Furthermore, we conducted sensitivity analyses with regard to study design (RCT vs Other), outcome analyses (intention-to-treat vs completer-only), ISTDP type (traditional ISTDP vs modified ISTDP) to determine whether these factors bear on outcome. We hypothesized that RCTs would have less robust effects, as would studies with ITT analyses and that the newer iterations of ISTDP would have superior effects compared to earlier iterations. Because of the small number of studies included in the meta-analyses, we did not conduct publication bias analyses.

Results

Description of Studies

Twenty-one papers reporting outcomes of Davanloo's ISTDP ^{7, 8, 10, 13} were identified for review (See Table 1). Fifteen were identified through references from four recent reviews of STPP ³⁻⁶ while the authors had knowledge of an additional six published studies. The final sample consisted of six RCTs, four non-randomized controlled trials, and eleven studies with no control groups. Two studies incorporated a waiting-list control ^{11,27} and three an active treatment comparison group ²⁸⁻³⁰. Eighteen of these studies employed individual ISTDP while one study ³¹ used ISTDP in a group format and two described a Residential ISTDP program ^{32, 33}. Treatment was a mean of 18.0 (SD 15.5) sessions long.

There were a mean of 6.2 (SD 8.6) therapists per study. Thirteen studies reported utilizing clinicians well-trained in ISTDP, three described therapists with little or mixed experience levels, while three made no reference to therapist experience. Five studies utilized adherence ratings while seven reported treatment monitoring through videotape supervision.

One study ³⁶ used blinded outcome evaluators, but the others did not blind the assessors or failed to report on blinding. Two studies reported independently gathered data on healthcare cost and utilization. Intention-to-treat analyses were conducted in nine studies while the remaining studies used completer only analyses.

Treatment of Personality Disorders (PD)

Three RCTs of ISTDP for PD have been conducted ^{28, 29, 38}. Hellerstein, Rosenthal, Pinsker, Samstag, Muran, and Winston ²⁹ and Winston, Pollack, Laikin, Samstag, McCullough, and Muran ²⁸ treated twenty-five and fifteen patients respectively, largely with diagnoses of Cluster C and PD not otherwise specified (NOS), using Davanloo's early technique ⁷. Treatments averaged 28.5 and 40.3 one-hour sessions respectively. At medium to long-term follow-up (6-18 months), these studies reported a significant decrease in symptoms following ISTDP. Hellerstein et al.²⁹ did not find a significant reduction on the Inventory of Interpersonal Problems ³⁹ (IIP, $p = 0.10$). However, Winston et al. ²⁸ found that ISTDP significantly outperformed a wait-list control group on patients' self-rated target complaints (Target Complaints Questionnaire) ⁴⁰, symptoms (Symptom Checklist-90) ⁴¹, and on the Social Adjustment Scale ⁴². Both studies compared ISTDP to alternative brief psychotherapies. Statistically significant differences on summary scales were not found between comparison groups in these two studies.

Using Davanloo's revised treatment ¹³ with experienced therapists, Abbass et al.³⁸ treated a comparatively more severe population of patients including some with borderline, paranoid and narcissistic personality disorder. Following on average 27.7 sessions, those treated with ISTDP exhibited significantly improved outcomes on symptom, interpersonal (IIP) and functional measures in comparison to controls. When those in the minimal contact control group later received ISTDP of similar length,

similar gains were accrued. Treatment gains were maintained in long-term (mean 2 years, 1 month) follow-up. The ISTDP group evidenced significant reductions in medication usage and an increase in employment rate and work hours while controls did not. This study reported treatment of a broader range of PD patients with greater efficiency compared to the early version of ISTDP (Winston et al.²⁸ and Hellerstein et al.²⁹): this is indicated by superior gains on the IIP (e.g. versus Hellerstein et al.) and SCL-90 (versus Winston et al.); one third shorter treatment (e.g. versus Winston et al.²⁸); and inclusion of a broader range of personality disorder categories (versus both Winston et al.²⁸ and Hellerstein et al.²⁹)

Cornelissen and Verheul³² reported case-series data from a residential treatment program for personality disorder, in which all patients received individual ISTDP sessions, in concert with group psychotherapy and different forms of non-verbal therapy. Patients' self-reported quality of interpersonal relationships improved at discharge, and increased at 1-year and long-term follow-up (3-years). The long-term effects of all patients completing the program over the last 10-years have been evaluated³³. From a naturalistic sample of one hundred and fifty-five patients, 69% were re-interviewed with the longest follow-up period being 10-years. In this extended sample, treatment effects calculated based on pre-treatment and termination ratings were again in the large range on the SCL-90⁴¹ and also for general functioning⁴³. Comparison of pre-treatment scores and those at longest follow-up revealed that improvement in psychiatric symptoms was maintained and Global Assessment of Functioning (GAF)⁴³ scores significantly improved (ES = 1.5).

Four further studies included large proportions of patients with PD^{11,37,44,45}. Two naturalistic studies^{44,45} with sample sizes of ten (all with PD) and eighty-nine (over half with PD) respectively, saw scores on all outcome measures move from the clinical to normal range in less than fifteen hours of treatment. Callahan³⁷ reported selected naturalistic data (N=6) for patients with mixed Axis I and II diagnoses: mean GAF⁴³ ratings improved significantly following treatment based on Davanloo's early treatment method⁷. In a sample of thirty patients¹⁵, 87% having PD, the ISTDP trial therapy interview brought significant gains on all subscales and the global scale (GSI) of the Brief Symptom Inventory (BSI)⁴⁶: the global IIP rating just failed to reach significance ($p = 0.06$)¹⁵. When compared to a standard intake assessment, the ISTDP trial therapy format demonstrated superior outcomes¹⁵ on the BSI⁴⁶ GSI and the domineering/controlling subscale on the IIP³⁹.

Treatment of Somatic Symptoms

Six studies reported the use of ISTDP for somatic disorders. In an RCT, Baldoni, Baldaro, and Trombino⁴⁸ studied ISTDP compared to a medical treatment as usual control for Urethral Syndrome and pelvic pain. Significant improvement in urinary symptoms and pelvic pain was seen in those who received ISTDP, with 70% of participants in remission at 4-year follow-up⁴⁸. ISTDP brought statistically significant improvement at termination and outperformed the control group on target symptom rating and measures of anxiety ($p < 0.01$), depression ($p < 0.05$) and hostility ($p < 0.05$): however, at 4-year follow-up only the latter two associations were maintained.

A second RCT ³⁵, compared changes in immune factors in a student population, following either six sessions of ISTDP (N=13) or a verbal disclosure group setting (N=14). Pre and post measurement found statistically significant changes in immune cell counts (CD-4 and CD-8) in the ISTDP group relative to the control group.

Hinson, Weinstein, Bernard, Leurgans, and Goetz ³⁶ conducted a pre-post clinical trial (N=10) for Psychogenic Movement Disorder. Assessment at termination following nine completed treatments showed significant changes on blinded ratings of movement disorder ⁴⁹, and self-report measures of anxiety ⁵⁰, depression ⁵¹, and general functioning ⁴³.

Three naturalistic studies ^{31, 47, 52} reported that ISTDP was effective in reducing self-reported somatic symptoms. The first study, described an eight-week group ISTDP intervention ³¹ promoting the experiencing of repressed emotions for patients suffering with chronic back pain. Pre-post data for forty-seven patients revealed significant changes in self-reported pain scores but not self-rated anxiety. In a second study, further analysis of pre-published case series data¹¹ identified a sub-sample of twenty-nine patients suffering from recurrent headaches treated with ISTDP ⁴⁷. This group received on average 19.7 sessions. At termination, a significant drop in psychiatric symptoms was found ($p < .01$) and service-related cost savings were evident. Finally, ISTDP-based assessment and treatment was provided to fifty patients presenting to the emergency department with medically unexplained symptoms ⁵². After an average 3.8 sessions of ISTDP, significant symptom reduction (BSI-GSI and Somatization subscale) and a 69% drop in emergency department visits per year were observed. In comparison, a control sample of twenty-seven patients referred to the service who never received ISTDP treatment for various reasons showed a statistically non-significant 42% increase in emergency visits.

Other Psychiatric Disorders

Wiborg and Dahl used a randomized controlled design to examine the efficacy of ISTDP plus clomipramine versus clomipramine alone for Panic Disorder ³⁰. The authors found that all patients receiving ISTDP were free of panic attacks at termination, compared to 75% in the clomipramine group. Eighty percent of patients in the ISTDP group remained free of symptoms at 18-months follow-up versus 25% receiving only clomipramine. When clomipramine was discontinued after 9 months, the relapse rate was high and significantly greater in those who were not provided ISTDP. Ninety-one percent of those with severe Panic Disorder provided clomipramine alone relapsed versus only 9% of those provided ISTDP. ISTDP treated patients also reported significantly improved outcome on all symptom measures at 18-month follow-up.

In a large naturalistic study of ISTDP ¹¹, a mixed sample of 166 patients were provided an average of 16.9 sessions. The sample as a whole was described as 'fairly impaired' based on rate of unemployment and non-response rate to medications. After treatment, 86% and 65% of patients treated no-longer met clinical case criteria on the BSI ⁴⁶ and IIP ³⁹ respectively. Eighty-one percent of patients returned to work following therapy and 69% stopped all psychotropic medications. A second paper ²⁷, provided detailed clinical and cost effectiveness data from eighty-nine patients from this cohort ¹¹ for whom government provided healthcare cost data was available. Patients received on

average 14.9 sessions and follow-up data 1-year post termination was collected. Large ESs (*d*) were seen on a collection of self-reported measures of symptom distress^{46, 50} and interpersonal difficulties³⁹ ranging from 0.90 to 1.64.

Two further case series offer preliminary data for ISTDP in the treatment of more complex psychiatric disorders^{44, 54}. In ten patients with Treatment Resistant Depression, ISTDP showed large effects on self-rated depressive symptoms (ES = 2.52), clinician rated depression (ES = 3.9) and interpersonal problems (ES = 0.87) after an average of 13.6 sessions: these effects were maintained at 6 month follow-up⁴⁴. Four patients with stable Bipolar Disorder were offered a five session modified format of ISTDP based on enhancing emotional awareness: at termination, BSI⁴⁶ scores had entered the non-clinical range and mean IIP³⁹ scores were shown to have reduced, but remained above the clinical cut off⁵³.

Therapists in Training

Abbass³⁴ reported data on a series of treatments provided by psychiatry residents in videotape supervision. In this sample, the BSI-GSI⁴⁶ improved significantly to below the clinical threshold, however, self-rated interpersonal problems³⁹ did not improve significantly (IIP, $p = 0.10$).

Cost Effectiveness

In total, eight identified studies provided cost-effectiveness data^{32, 33, 38, 44, 45, 47, 53, 55} (See Table 2). As noted, a very short course of ISTDP preceded a 69% drop in emergency visit costs equating to a net \$504 cost reduction per patient⁵⁵ while controls had a non significant increase in costs. Reduced hospital and mental health service use was reported in two naturalistic studies with high rates of PD (N=89⁴⁵; N=93³²): in the first, an 85% reduction in hospital services and 33% drop in physician costs was evidenced⁴⁵, and further costs savings were accrued over 3-year follow-up⁴⁵. In the second³², there was a significant reduction in hospital admissions and mental health appointments. Five studies reported reduced medication usage of 35% to 81.5%^{38, 44, 45, 47}. Statistically significant reductions in medication usage were found in ISTDP treated groups versus waiting-list controls ($p = 0.001$)³⁸ and a treatment as usual group ($p = 0.01$)¹¹. Large savings from reduced disability claims were reported^{38, 44, 45, 47} and the proportion returning to work after therapy courses in five different studies^{33, 38, 44, 45, 47} ranged from 32.9%³³ to 100%⁴⁷.

Meta-analysis

Inclusion of Studies

From the twenty-one studies identified in the search, four^{27, 32, 45, 47} were excluded from the meta-analysis because patient data from larger cohort studies was already included. Two studies were excluded because they reported data on the ISTDP 'Trial Therapy' session alone^{15, 16} and therefore could not be considered representative of a course of ISTDP treatment. One study was excluded due to the lack of a common outcome measure for comparison³⁵ and another because ISTDP was provided as a combined treatment alongside medication³⁰. In total thirteen studies comprising six hundred and sixty-four participants were included in the meta-analysis. The mean number of participants in the ISTDP treatment arm per study was 46.9 (range= 4-166).

The average length of treatment across studies was 19.7 sessions (sd = 16.3) and 7 studies provided follow-up data averaging 15 months (sd = 15). Given the wide variation in studies and patient samples that were aggregated for this meta-analysis, the results should be considered preliminary.

ISTDP pre- to post-treatment change

Pre to post mean pooled ESs for all outcome measures were large ($d = 0.84 - 1.51$) indicating large improvements on measures of general psychopathology, depression, anxiety and interpersonal functioning. Significant heterogeneity was seen in 3 of the 4 outcome categories indicating results differ from study to study. See Table 3 for details.

We conducted sensitivity analyses with regard to general psychopathology as the outcome measure. RCTs mean pooled effect size ($d = 1.33$; 95%CI $-0.44 \sim 3.09$; $n = 2$) was not significantly different than non-RCTs ($d = 1.10$; 95%CI $0.77 \sim 1.42$; $n = 8$ ($p = .80$)). In studies employing intention-to-treat analyses, pre-post effect sizes on general psychopathology measures were significantly higher ($d = 2.03$; 95%CI $1.49 \sim 2.56$; $n = 3$) than in the group of studies employing completer-only analyses ($d = 0.96$; 95%CI $0.63 \sim 1.30$; $n = 8$, $p < .01$). In the subgroup of studies citing Davanloo, 1990 and 2000, a larger mean pooled effect size was found ($d = 1.37$; 95%CI $0.97 \sim 1.77$; $n = 8$) than in the subgroup of studies citing earlier references of Davanloo (before 1990); $d = 0.58$; 95%CI $0.19 \sim 0.98$; $n = 3$): this difference was statistically significant ($p < .05$).

ISTDP post-treatment to follow-up change

Post treatment to follow-up pooled ESs of general psychopathology and interpersonal problems were found to be non-significant (Table 3) indicating maintenance of gains. However, it must be noted that these analyses were based on a small number of studies only, and with regard to general psychopathology, a finding of significant heterogeneity indicates results differ from study to study. No post-treatment to follow-up pooled mean effect sizes were calculated for depression and anxiety as outcome measures, since these were reported in only one and two studies respectively.

ISTDP versus control conditions

ISTDP could be compared to control groups at post-treatment in three studies (Table 2). These included 2 with wait list controls^{11, 28} and one with minimal treatment control³⁸. A large ES in favor of ISTDP versus controls was seen on measures of general psychopathology. No ISTDP versus control conditions effect sizes were calculated for the other outcome measures, as relevant data were reported in one or two studies only.

Discussion

Based on these 21 studies conducted in several centers, a statement about ISTDP treatment effects can be made. Subject to limitations of this literature and the analyses conducted, the observed large mean treatment effects offer evidence that ISTDP may be effective for a wide range of patients based on the volume of studies and the application to diverse patient populations. There is also preliminary evidence that the method is cost-effective in these diverse populations.

The most compelling evidence for the efficacy of ISTDP is in the treatment of PD due to the significant findings of improvement replicated in three independent, fairly rigorous RCTs: this evidence is corroborated by observed sustained benefits in several naturalistic studies. ISTDP's efficacy in other populations studied is in question due to a range of shortcomings in research methods and the lack of replication.

The limitations of this body of research are significant and notable. Studies are of variable quality with only a minority being RCTs and with many lacking ITT analyses, adherence ratings or independent evaluation of outcome. Some of the studies appeared to employ non-expert therapists training to learn the approach: it is arguable that this is not a good test of the method. On the other hand, many of these studies were conducted by expert therapists, which may not reflect the effectiveness of the method in the hands of a moderately trained and experienced therapist. As with much of psychotherapy research, the lack of clear tracking and reporting on intervening psycho-social, medical and self help treatments in most studies calls into question the causes of observed enduring treatment effects in follow-up. The cost- effectiveness data suffers from a lack of complete reporting of cost variables within studies among other methodological limitations within these 8 studies (Table 2).

One of the strengths of this body of research is the diversity of centers, therapist experience, and patient populations. Thus, these studies may reflect the clinical 'real world' of co morbidity and clinicians at various skill levels. Further, outcome data was largely based on the use of standardized outcome measures, thus increasing the potential replicability of studies. Naturalistic studies and RCT designs complement case-based research resulting in multiple levels of evidence for this treatment.

We meta-analyzed this group of studies to balance out effects of therapist experience, countries/research centers and year of study, to attempt to better reflect the whole body of research. We found evidence of beneficial effects after-versus-before ISTDP and between ISTDP and controls. The sensitivity analyses findings of greater effects (+/- ITT) and no difference in effects (+/- RCT) in higher quality studies (ITT and RCT studies) suggest that observed benefits of ISTDP are not due to poor study quality. The finding of greater effects with the current version of ISTDP compared to the early treatment may reflect a positive evolution of the therapy. These results must be considered preliminary due to small numbers, diversity of patient samples, variance in study quality and heterogeneity in some analyses.

The effectiveness of the method with several somatic conditions bears underscoring. Many patients who frequent emergency departments and physician offices may benefit from this approach which appears to have effects across neurological, immunological, musculoskeletal and other physical systems. These studies contribute to the growing evidence base for short-term psychodynamic therapies in diverse somatic conditions ⁴. The importance of reduced hospital and physician costs after this brief therapy cannot be minimized in current economic circumstances of most international health care systems.

There is at least some data for the use of this treatment with patients with Dissociative Disorders and more severe PDs ^{11,38}. It is notable that patients with dissociative disorders appeared not to benefit as much as those without this problem in one study

11. Only one half to two thirds were felt to be responders within this short-term therapy approach. This may represent a limitation of this short-term model versus longer similar models for this population ⁵⁶.

Future research into ISTDP should include rigorous head-to-head comparisons versus more interpretative or cognitive varieties of brief dynamic psychotherapy. The method should also be compared to other commonly used brief models such as Cognitive-Behavioral Therapy ⁵⁷ in select conditions. Blinded outcome ratings, RCT design, ITT analyses and moderately trained therapists should be employed in these studies. Finally, study of the impact of training type, amount and format on the outcome of ISTDP is warranted to characterize what is required to provide the method effectively. Studies showing good outcomes in the hands of trainees and early career therapists do however support the principle that the method is learnable.

Thus, Davanloo and subsequent researchers have conducted a moderate amount of outcome research into ISTDP that suggests it may be both effective and applicable to a broad range of populations within a short and relatively inexpensive treatment course. Further, more rigorous and targeted research is warranted to answer questions about its scope of efficacy and cost-effectiveness.

References

References marked with an asterisk indicate studies included in the meta-analysis.

1. Shedler J. The efficacy of psychodynamic psychotherapy. *American Psychologist* 2010;65:98-109.
2. Piper WE, Debbane EG, Bienvenu JP & Garant J. A comparative study of four forms of psychotherapy. *Journal of consulting and clinical psychology* 1984; 52:268-279.
3. Abbass AA, Hancock JT, Henderson J & Kisely S. Short-Term Psychodynamic Psychotherapies for common mental disorders (a Cochrane review). In the Cochrane Library (issue 4). Chichester: UK: John Wiley & Sons 2006.
4. Abbass AA, Kisely S & Kroenke K. Short-term Psychodynamic Psychotherapy for somatic disorder. *Psychotherapy & Psychosomatics* 2009;78:265-274.
5. Driessen E, Cuijpers P, de Maat S, Abbass AA, de Jonghe F & Dekker J. The Efficacy of Short-Term Psychodynamic Psychotherapy for Depression: a Meta-Analysis, *Clinical Psychology Review* 2010;30(1):25-36.
6. Town JM, Abbass A & Hardy G. Short-term Psychodynamic Psychotherapy for personality disorder: A review of randomised clinical trials. *Journal of Personality Disorders* (in press).
7. Davanloo H. *Short-term Dynamic Psychotherapy*. New Jersey: Jason Aronson, 1980.
8. Davanloo H. *Unlocking the Unconscious*. Chichester: Wiley, 1990.
9. Whittmore J. Paving the royal road: overview of conceptual and technical features of the graded format of Davanloo's Intensive Short-term Dynamic Psychotherapy 1996;11:21-39.
10. Davanloo H. Intensive Short-Term Dynamic Psychotherapy. In B. J. Sadock & V. A. Sadock, ed, Kaplan and Sadock's Comprehensive Textbook of Psychiatry, Lippincot: Williams and Wilkins 2005;2628-2652.
11. * Abbass A. Office based research in Intensive Short-Term Dynamic Psychotherapy (ISTDP): Data from the first 6 years of practice. *Ad Hoc Bulletin of Short-term Dynamic Psychotherapy* 2002;6(2):5-14
12. Davanloo H. Unconscious therapeutic alliance. *Frontiers of Dynamic Psychotherapy*, P. Buirski (Ed.). New York: Mazel and Brunner, Chapter 5, 64-88.
13. Davanloo H. *Intensive Short-term Dynamic Psychotherapy*. Chichester: Wiley, 2000.
14. Said T. Trial therapy and working through in Intensive Short-Term Dynamic Psychotherapy: Part 1: Trial therapy and selection. *International Journal of Short-Term Psychotherapy*. 1990;5,147-166
15. Abbass AA, Joffres MR, Ogrodniczuk JS. A naturalistic study of Intensive Short-Term Dynamic Psychotherapy trial therapy. *Brief Treat Crisis Intervention* 2008;8(2):164-70
16. Abbass AA, Joffres M, Ogrodniczuk J. Intensive Short-Term Dynamic Psychotherapy trials of therapy; qualitative description and comparison to standard intake assessment. *Ad Hoc Bulletin of Short-term Dynamic Psychotherapy* 2009;13(1)
17. Joseph C. Antecedents to transference interpretation in Short-Term Psychodynamic Psychotherapy (doctoral dissertation, Rutgers University). *Dissertation Abstracts International* 1988;50-04B
18. Makynen A. The effects of continued confrontation on patient affective and defensive response. *Dissertation Abstracts International* 1992; 54,01B

19. Salerno M, Farber B, McCullough L, Winston A, & Trujillo M. The effects of confrontation and clarification on patient affective responding. *Psychotherapy Research* 1992; 2,181-192
20. Bernardelli A, De Stefano J, & Stalikas A. An analysis of counseling response mode profile in Short-Term Dynamic Psychotherapy. *The Journal of the Hellenic Psychological Society* 2002; 9(1):1-8
21. Taurke E, Flegenheimer W, McCullough L, Winston A, Pollack J, & Trujillo M. Change in affect defense ratio from early to late sessions in relation to outcome. *Journal of Clinical Psychology* 1990; 46:657-668
22. Salvadori A, Town JM & Hardy G. The relationship between affect experiencing and distress in Intensive Short-Term Dynamic Psychotherapy. (Doctoral dissertation: University of Sheffield). 2010.
23. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. Academic Press: New York, 1969.
24. Cohen J. *Statistical Power Analysis for the Behavioral Sciences*. Lawrence Erlbaum Associates, 1987.
25. Dunlop WP, Cortina, JM, Vaslow JB, Burke MJ. Meta-analysis of experiments with matched groups or repeated measures designs. *Psychological Methods* 1996;1(2),170-7.
26. Higgins JP, Thompson SG, Deeks JJ & Altman DG. Measuring inconsistency in meta-analyses. *British Medical Journal* 2003;327:557-560.
27. Winston A, Pollack J, McCullough L, Flegenheimer W, Kerstenbaum R, Trujillo M. Brief psychotherapy of personality disorders. *J Nerv Ment Dis* 1991;179:188-93
28. * Winston A, Laikin M, Pollack J, Wallner Samstag L, McCullough L, Muran JC. Short-Term Psychotherapy of personality disorders. *Am J Psychiatry* 1994;151(2):190-94
29. * Hellerstein DJ, Rosenthal RN, Pinsker H, Wallner Samstag L, Muran JC, Winston A. A randomized prospective study comparing supportive and dynamic therapies. Outcome and alliance. *J Psychother Pract Res* 1998;7:261-71
30. Wiborg IM, Dahl AA. Does brief dynamic psychotherapy reduce relapse rate of panic disorder. *Arch Gen Psychiatry* 1996;53:689-94
31. * Hawkins JR. The role of emotional repression in chronic back pain: A study of chronic back pain patients undergoing psychodynamically oriented group psychotherapy as treatment for their pain. NY: New York University, 2003
32. Cornelissen KLM, Verheul R. Treatment outcome of residential treatment with ISTDP. *AD HOC Bull Short Term Dyn Psychother* 2002; 6:14 -23
33. * Cornelissen KLM, Smeets D, Willemsen SP, Busschbach JJV, Verheul R. Long-term follow-up of a residential form of Intensive Short-Term Dynamic Psychotherapy in personality disorders. In preparation
34. * Abbass, A. Small-group videotape training for psychotherapy skill development. *Acad Psychiatry* 2004;28(20):151-55
35. Ghorbani N, Dadsetan P, Ejei J, Motiyan H. The consequences of overcoming resistance and emotional disclosure on lymphocyte T-helper and T-supressor and psychological pathology. *J Psychology (Persian)* 2000; 3:368-389
36. * Hinson VK, Weinstein S, Bernard B, Leurgans SE, Goetz CG. Single-blind clinical trial of psychotherapy for treatment of psychogenic movement disorders. *Parkinsonism Relat Disord* 2006;12:177-180
37. * Callahan, P. Indexing resistance in Short-Term Dynamic Psychotherapy (STDP): Change in breaks in eye contact during anxiety (BECAS). *Psychotherapy Research* 2002;10(1): 87-99

38. * Abbass A, Sheldon A, Gyra A, Kalpin A. Intensive Short-Term Dynamic Psychotherapy for DSM-IV personality disorders. *J Nerv Ment Dis* 2008;196(3):211-16
39. Horowitz LM, Rosenberg SE, Baer BA, Ureno G, Villasenor VE. Inventory of Interpersonal Problems: Psychometric properties and clinical applications. *Journal of Consulting and Clinical Psychology* 1988;56:885-892
40. Battle C, Imber S, Hoehn-Saric R, Stone A, Nash E, Frank J. Target Complaints as Criteria of Improvement. *American Journal of Psychotherapy* 1966;20:184-192
41. Derogatis LR. The symptom checklist- 90 revised: administration, scoring and procedures manual II. Baltimore: Clinical Psychometric Research 1983
42. Weissman MM, Bothwell S. Assessment of social adjustment by patient self-report. *Archives of General Psychiatry* 1976;33:1111-1115
43. Endicott J, Spitzer RL, Fleiss JL, Cohen J. The global assessment scale: A procedure for measuring overall severity of psychiatric disturbance. *Archives of General Psychiatry* 1976; 33: 766-771.
44. * Abbass A. Intensive Short-Term Dynamic Psychotherapy of treatment-resistant depression: a pilot study. *Depress Anxiety* 2006;23:449-52
45. Abbass A. Intensive Short-Term Dynamic Psychotherapy in a private psychiatric office: clinical and cost effectiveness. *Am J Psychother* 2002;56(2):252-32
46. Derogatis LR, Melisaratos N. The brief symptom inventory: An introductory report. *Psychological Medicine* 1983;13: 595-605
47. Abbass A, Lovas D, Purdy A. Direct diagnosis and management of emotional factors in chronic headache patients. *Cephalalgia* 2008;28:1305-14
48. * Baldoni F, Baldaro B, Trombini G. Psychotherapeutic perspectives in urethral syndrome. *Stress Med* 1995;11:79-84
49. Hinson VK, Cubo E, Comella CL, Leurgans S, Goetz CG. Rating scale for psychogenic movement disorders: a study of interrater reliability. *Neurology* 2003;60:A212
50. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *J Cons Clin Psychol* 1988;56:893-7
51. Hamilton M. Development of a rating scale for primary depressive illness. *Br J Soc Clin Psychol* 1967;6(4):278-96
52. * Abbass AA, Campbell S, Magee K, Tarzwell R. Intensive Short-Term Dynamic Psychotherapy to reduce rates of emergency department return visits for patients with medically unexplained symptoms: preliminary evidence from a pre-post intervention study. *CJEM* 2009;11(6):529-34
53. Abbass AA. The cost effectiveness of Short-Term Dynamic psychotherapy. *Journal of Pharmacoeconomics and Outcome Research* 2003;3:535-539
54. * Abbass A. Modified Short-Term Dynamic Psychotherapy in patients with bipolar disorder. Preliminary report of a case series. *Canadian Child Psychiatry Review* 2002;11(1):19-22
55. Abbass A, Campbell S, Magee K, Lenzer I, Hann G, Tarzwell R. Cost Savings of Treatment of Medically Unexplained Symptoms Using Intensive Short-term Dynamic Psychotherapy (ISTDP) by a Hospital Emergency Department. *Arch Med Psychol* 2010; 2(1),34-44
56. Clarkin JF, Levy KN, Lenzenweger MF, Kernberg OF. Evaluating three treatments for borderline personality disorder: a multiwave study. *Am J Psychiatry* 2007;16(6): 922-8
57. Beck AT, Rush AJ, Shaw BF, Emery B. *Cognitive therapy of Depression*. The Guilford Press: New York, 1979.

Table 1: Study characteristics

<u>Study</u>	<u>Study type</u>	<u>N</u>	<u>Condition</u>	<u>Outcome measure</u>	<u>Assessment moments</u>	<u>Sample (Country)</u>	<u>Diagnosis</u>	<u>ISTDP format (Nse)</u>	<u>Number of therapists</u>	<u>ISTDP method</u>	<u>Adherence rating</u>	<u>Med use</u>	<u>Blinding or independent measures</u>	<u>Outcome analyses</u>	<u>Training</u>
Winston et al. ²⁷	N-CT	15 17 17	ISTDP BAP Waitlist	SCL-90R SAS Target rating	Pre, post	Clinical (USA)	Personality disorder (DSM-III assessed by Personality Diagnostic Questionnaire)	IND (37)	18	Davanloo, 1980+ reseach treatment manual	Yes	No	Self-report only	CO	Yes
*Winston et al. ²⁸ (Continuation of Winston et al. ²⁷)	RCT	81	ISTDP BAP Waitlist	SCL-90R SAS Target rating	Pre, post, 1.5 year follow-up	Clinical (USA)	Personality disorder (DSM-III-R)	IND (40)	24	Davanloo, 1980 + reseach treatment manual	Yes	No	Self-report only	CO	Yes
*Baldoni et al. ⁴⁸	RCT	13 23	ISTDP CAU	SQ	4 year follow-up	Other (Italy)	Urethral syndrome & pelvic pain	IND (12-16)	1	Davanloo, 1980 Malan, 1976 / 1979	No	Yes	Self-report only	CO	Yes
Wiborg & Dahl ³⁰	RCT	20	Med Med + ISTDP	PAAS	Pre, post, 9 months follow-up	Clinical (Norway)	Panic disorder (DSM-III-R as assessed by SCID-I)	IND (15)	1	Davanloo, 1978 + Malan, 1976 + Strupp & Binder, 1986	No	No (other than study medication)	Yes	ITT	Yes
*Hellerstein et al. ²⁹	RCT	25 24	ISTDP BSP	SCL-90 IIP Target complaint	Pre, post, 6 months follow-up	Clinical (USA)	Personality disorder (DSM-III as assessed by SCID)	IND (29)	23	Davanloo, 1980 + Laikin et al., 1991	Yes	No	Self-report only	CO	Yes
*Callahan ³⁷	Open	6	ISTDP	GAF	Pre, post	Clinical (USA)	Mixed (DSM-IV clinical diagnosis)	IND (60)	1	Davanloo, 1990	Unclear	Yes	Partially	CO	Unclear
Ghorbani et al. ³⁵	RCT	27	ISTDP Non-specific control	T-helper and T-suppress or cell count	Pre, post	Student-population (Iran)	No clinical diagnosis	IND (6)	1	Davanloo, all publications up to 1999	No, but videotaped supervision	No	Unclear	Unclear	Yes
*Abbass ¹¹	N-RT	16	ISTDP	BSI	Pre, post	Clinical	Mixed DSM-	IND	1	Davanloo,	No, but	Yes	Cost data	ITT/CO	Mixed

		6 17	Waitlist	IIP Cost measure s	1 year follow-up	(Canada)	IV / -IIR clinical diagnosis	(16.9)		1990	videotaped supervisio n				Experien ce
Abbass ⁴⁵ (subsampl e of Abbass ¹¹)	Open	89	ISTDP	BDI BAI BSI IIP Cost measure s	1 and 3 year follow-up (Abbass, 2003)	Clinical (Canada)	Mixed DSM- IV clinical diagnosis	IND (14.9)	1	Davanloo, 1990	No, but videotaped supervisio n	Yes	Cost data	ITT/CO	Yes
*Abbass ⁵³	Open	4	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Bipolar I disorder (DSM-IV)	IND (5)	1	Davanloo, 2000 Modified format	No	Yes, but medicati on not changed	Self-report only	ITT/CO	Yes
Cornelisse n & Verheul ³²	Open	93	Residential ISTDP	SCL-90 NVL	Pre, post, 1 and 3 year follow-up	Clinical (Netherlan ds)	Personality disorder cluster B/C (DSM-IV)	IND	Unclear	Davanloo, 1980 / 1990	No	Unclear	Healthcare utilization	CO	Yes
*Hawkins ³¹	Open	47	ISTDP	MPQ MAS	Pre, post	Unclear (USA)	Chronic back pain	GRP (8)	Unclear	Davanloo, 1986	Unclear	Unclear	Self-report only	CO	Unclear
*Abbass ³⁴	Open	56	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Mixed common mental disorders	IND (8.9)	18	Davanloo, 1990 / 2000	No rating, videotaped supervisio n	Yes	Self-report only	CO	Resident s in training
*Abbass ⁴⁴	Open	10	ISTDP	HAMD BSI-D CGI-S IIP Cost measure	Pre, post, 6 months follow-up	Clinical (Canada)	Treatment resistant depression	IND (13.6)	1	Davanloo, 1990	No	Yes, but doses not increase d	No	ITT	Yes
*Hinson et al. ³⁶	Open	10	ISTDP	PMDRS BAI HAMD MMPI-2 GAF	Pre, post	Clinical (USA)	Psychogenic movement disorders	IND	Unclear	Davanloo, 1980	No	Yes	Yes	CO	Unclear
Abbass, Joffres & Ogrodnicz uk ¹⁵	Open	30	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Mixed (DSM- IV clinical diagnosis)	IND (1)	1	Davanloo, 1988 Trial therapy	No, but videotaped supervisio n	Yes	Self-report only	ITT	Yes
*Abbass ³⁸	RCT	27	ISTDP Minimal contact	BSI IIP GAF	Pre, post, 2 year follow- up	Clinical (Canada/ USA)	Personality disorder (DSM-IV as	IND (27.7)	5	Davanloo, 2000	Yes	Yes	No	ITT	Yes

			control				assessed by SCID)								
Abbass, Lovas & Purdy, ⁴² (subsampling of Abbass ¹¹)	Open	29	ISTDP	BSI Cost measure	Pre, post	Clinical (Canada)	Chronic headache	IND (19.7)	1	Davanloo, 1990	No, but videotaped supervision	Yes	Cost data	ITT	Yes
*Abbass, ⁴⁷	N-RT	50	ISTDP CAU	NEDV BSI	Pre, post	Other (Canada)	Medically unexplained symptoms	IND (3.8)	6	Davanloo, 2000	Yes	Yes	Blinding to NEDV	ITT/CO	Mixed experience
Abbass, Joffres & Ogrodniczuk, ¹⁶ (same sample Abbass ¹⁵)	N-RT	30 20	ISTDP Standard intake	BSI IIP	Pre, post	Clinical (Canada)	Mixed (DSM-IV clinical diagnosis)	IND (1)	1	Davanloo, 1988 Trial therapy	No, but videotaped supervision	Yes	Self-report only	CO	Yes
*Cornelissen et al. ³³	Open	15 5	Residential ISTDP	SCL-90 GAF	Pre, post, 1-10 year follow-up	Clinical (Netherlands)	Personality disorder cluster B/C (DSM-IV)	IND	Unclear	Davanloo, 1980 / 1990	No	Unclear	Employment status	CO	Yes

* These studies were included in the meta-analyses.

Note: BAI=Beck Anxiety Inventory; BAP=Brief Adaptational Psychotherapy; BDI=Beck Depression Inventory; BSP=Brief Supportive Psychotherapy; BSI=Brief Symptom Inventory; BSI-D=Brief Symptom Inventory, depression subscale; CAU=Care-as-usual; CGI-S=Clinical Global Index, severity scale; CO=Completers- Only analyses; DSM=Diagnostic and Statistical Manual of Mental Disorders; GAF=Global Assessment of Functioning; GRP=Group therapy; HAMD=Hamilton Depression Rating Scale; IIP=Inventory of Interpersonal Problems; IIT=Intention-to-treat analyses; IND=Individual; ISTDP=Intensive Short-term Dynamic Psychotherapy; MAS=Manifest Anxiety Scale; Med=Medication; MMPI-2=Minnesota Multiphasic Personality Inventory-2; MPQ=McGill Pain Questionnaire; N=number of participants; NEDV=number of emergency department visits; N-RT=non-randomized clinical trial; Nse=number of sessions in the ISTDP condition; NVL='Nieuwkoopse Vragenlijst' for interpersonal functioning; Open=Open study (no comparison condition); PAAS=Panic Attack and Anxiety Scale; PDQ=Personality Diagnostic Questionnaire; PMDRS = Psychogenic Movement Disorder Rating Scale; RCT=Randomized Clinical Trial; SAS=Social Adjustment Scale; SCID=Structured Clinical Interview for DSM; SCL-90=Symptom Checklist; SQ=Symptom Questionnaire; USA=United States of America.

Table 2: ISTDP Cost Effectiveness

Study	N	Control for cost-effect analysis	Reference time period	Hospital Services	Health Services	Medication % discontinued	Medication costs	Disability	Total cost reduction *	Return to work
Abbass ⁴⁵	89	Pre vs. Post	2yrs pre vs. 1yr post	\$30,085 saving (85% reduction)	\$18,299 saving in physician costs (33% reduction)	71%	\$21,790 saving	\$481,780 saving	Net \$402,523 in reduced disability, medication and healthcare costs	18/22 (82%)
Cornelissen ³²	93	Pre vs. Post	2 yrs before vs. Post 1yr *long-term data	90.4% reduction in admissions	35% reduction in psychology/ psychiatry appts				29% more required no healthcare utilisation	
Abbass ⁵²	88	Post versus projections	3 year follow-up						40.0% reduction vs projections	
Abbass ⁴⁴	10	Pre vs. Post	6 mth pre vs. 6 mth post	\$14,400 saving			\$8,880 saving	\$33,600 saving		4/5 (80%)
Abbass, Sheldon et al. ³⁸	27	Pre vs. Post	Pre vs. Post 2yr			81.5% (p=0.001)	\$12,636 saving p=0.005	\$259,200 saving p=0.015	Net \$183,000 in reduced disability and medication costs	16/17 (94%) (p=0.017)
Abbass, Joffres et al. ¹⁵	30	1) Pre vs. Post 2) Standard interview vs. ISTDP Trial	Pre vs. Post 1 mth			35% (p=0.01)				2/30 (7%)
Abbass, Lovas et al. ⁴⁷	29	Pre vs. Post	Pre vs. Post				\$540 saving per mth	\$16,400 per mth	Net treatment cost offset in < 4 mths by reduced medication and disability costs	7/7 (100%)
Abbass, Campbell et al. ⁵⁵ (same sample as ⁵²)	50	1) Pre vs. Post 2) Referred but not seen control	1yr pre vs 1yr post		69% reduction in Emergency visits (p=<0.001)				Net \$504 per patient in reduced emergency visit costs	
Cornelissen, Smeets et al. ³³	155	Pre vs. Post	Pre vs. 1-10yr post							32.9%

* Reported cost savings do not include therapy costs except where indicated as “Net” reductions. Canadian \$ reported unless otherwise noted.

Table 3 Meta-analyses of studies examining the effects of ISTDP

Comparison	<i>N</i>	<i>d</i>	95% CI	<i>Z</i>	<i>Q</i>	<i>I</i> ²
ISTDP pre- to post-treatment change						
General psychopathology	11	1.16	0.82 ~ 1.50	6.71**	37.45**	73.30
Interpersonal functioning	7	0.84	0.50 ~ 1.18	4.83**	14.46*	58.50
Depression	5	1.51	1.16 ~ 1.87	8.37**	8.35	52.10
Anxiety	5	0.98	0.47 ~ 1.49	3.78**	26.21**	84.74
ISTDP post-treatment to follow-up change						
General psychopathology	4	0.01	-0.51 ~ 0.53	0.05	10.44*	71.28
Interpersonal functioning	3	0.12	-0.27 ~ 0.51	0.60	0.42	0.00
ISTDP vs. control groups at post-treatment						
General psychopathology	3	1.18	0.61 ~ 1.75	4.09**	4.70	57.44

Note: ISTDP=intensive short-term dynamic psychotherapy

* $p < .05$; ** $p < .01$

