Intensive Short-Term Dynamic Psychotherapy: A Systematic Review and Meta-analysis of Outcome Research

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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 20 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 21 studies (10 controlled, and 11 uncontrolled) reporting the effects of ISTDP in patients with mood, anxiety, personality, and somatic disorders. Using the random-effects model, we performed meta-analyses including 13 of these studies and found pre- to post-treatment effect 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 efficacious 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. (HARV REV PSYCHIATRY 2012;20:97–108.)

Keywords: **Davanloo, meta-analysis, psychodynamic, short-term psychotherapy**

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Original manuscript received 15 April 2011; revised manuscript received 26 August 2011, accepted for publication subject to revision 30 November 2011; final manuscript received 9 December 2011.

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DOI: 10.3109/10673229.2012.677347

INTRODUCTION

Psychodynamic psychotherapy concerns itself with identifying and addressing unconscious emotions and processes that result in a broad range of symptoms (anxiety, depression, and somatic) and character problems. By recognizing these processes and working through the emotions and content, the patient can be freed of the effects of the past, be able to form relationships, and come to experience reduced symptoms.[1]

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 therapies.[2] These treatments have been extensively investigated, including about a dozen meta-analyses showing, in general,

large effects (Cohen's $d > 0.80$) that persist in follow-up for mixed-,[3] somatic-,[4] depressive-,[5] and personality-disordered[6] patients.

Dr. Habib Davanloo has been one of the main proponents of short-term psychodynamic psychotherapy techniques.[7] In the 1970s, he developed what he called *short-term dynamic psychotherapy*, a treatment with active interventions, including the challenge and confrontation of defenses, in order to mobilize underlying, unresolved emotions. This early treatment was found to be clinically effective with select patient populations—and up to 35% of psychiatric outpatients.[7] Patients presenting with low anxiety tolerance, major depression, or somatization, however, were not suitable for this early version of the treatment approach.[7] In the 1980s, Davanloo refined and augmented the method to allow treatment of these more complex patients and began referring to the treatment as *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 "multidimensional" structural changes in unconscious anxiety and defense.[10] So extended, ISTDP can be used effectively in a broad clinical population. In a six-year study by the author, 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—which he called a *central dynamic sequence*. He found that by actively focusing on unconscious feelings and on defenses used to avoid those feelings, a set of complex feelings was activated. These feelings included deep appreciation of, but also irritation with, the therapist's efforts: these *complex transference feelings* hearkened back to attachments and feelings associated with interruptions to those attachments in the patient. When these mixed feelings were activated, anxiety and defenses moved in to block the patient's awareness of them. 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 he called the *unconscious therapeutic alliance*—that produced linkages to, and mental images of, unconscious unresolved content.[12] This process has been called *unlocking the unconscious*, which is an expression that 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 is what allows symptom reduction and behavioral change to take place; anxiety, depression, and personality disorders are theoretically treatable with ISTDP to the extent that they tie in to underlying unprocessed emotions. For details of the treatment method, readers are referred to Davanloo's latest article.[10]

Starting in the 1970s, Davanloo studied ISTDP through extensive use of video technology.[13] By retrospectively examining videotapes from patients who responded to treatment compared with those who did not, he was able to refine his approach. He used a dismantling procedure in which he left out or added in specific interventions with groups of patients, and then followed up to examine the effects of these interventions as ingredients of change. Davanloo further used patients' feedback—as provided by them viewing videotapes of their 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, published in 1980, that 83% of 143 mixed psychiatric patients responded to ISTDP with "symptomatic" and "personality" changes that persisted in those followed up (for 2 to 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 therapy, which provides a thorough evaluation of the client and tests suitability for ISTDP, has been characterized and evaluated.[14–16] Early studies characterizing ISTDP found it to be an active and involved process,[17–19] with highly focused therapist activity consistent with exploring and confronting self-defeating patterns.[20] Further studies found ISTDP outcomes to be linked to a reduction in patient defenses and increased expressed affect[21] and degree of emotional mobilization.[11,22]

Despite Davanloo's publication of the results from his videotaped case series from the 1970s and 1980s,[7] to our knowledge no systematic review has been conducted to examine the effectiveness of ISTDP. The purpose of the present article is therefore both to provide a comprehensive review of the current empirical literature and to examine the effectiveness of ISTDP through a meta-analysis of the available outcome data.

METHODS

Search Strategy

Following literature searches that we completed for four recent meta-analyses of short-term psychodynamic psychotherapy,[3–6] we examined the full texts of all studies identified to determine whether they met our inclusion criteria (see below). Two of the authors—both of whom are experienced clinicians and researchers in psychodynamic psychotherapy—independently reviewed articles to establish study eligibility. Disagreements were discussed, and consensus reached. In order to identify any studies published after the previous search dates and to detect studies not meeting criteria for previous meta-analyses, we conducted a search in PsycINFO and CINAHL without date restrictions and using the following search terms: davanloo (146 hits), short-term dynamic psychotherapy (355 hits), and intensive short-term dynamic psychotherapy (163 hits). The search was repeated in MEDLINE, with the following results: davanloo (15 hits), short-term dynamic psychotherapy (119 hits), and intensive short-term dynamic psychotherapy (8 hits). References from the articles identified were examined, in turn, for any additional references. Finally, networks of psychodynamic psychotherapy researchers were contacted to identify any new or forthcoming publications.

Study Selection

We included any published article with outcome data on short-term psychodynamic psychotherapy referencing Davanloo's books or technical articles in its description of the treatment delivered. That treatment could have been employed alone or alongside other variants of short-term psychodynamic psychotherapy. We used broad selection criteria—and included randomized, controlled trials (RCTs), nonrandomized, 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 of the study or the time period, culture, or geographical location in which it was conducted.

Meta-analysis

We conducted three different meta-analyses: (1) assessing pre- to post-treatment change with ISTDP, (2) assessing post-treatment to follow-up change with ISTDP, and (3) assessing ISTDP versus control conditions. Effect sizes (Cohen's d) were computed for each of the primary studies.[23,24] Because correlations across time points were generally not reported, we decided to use Cohen's d for both the repeated-measures comparisons and the independent group comparisons, as recommended by Dunlop and others.[25] 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 were 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 were not available to calculate effect sizes, the study was excluded from the meta-analysis. Effect sizes of 0.2 are considered small; effect sizes of 0.5, moderate; and effect sizes of 0.8 or above, large.[23]

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 heterogeneity.[26]

Furthermore, we conducted sensitivity analyses with regard to study design (RCT vs. other), outcome analyses (intention-to-treat [ITT] vs. completer only), and ISTDP type (early [pre-1990] vs. later studies of 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 4 recent reviews of short-term psychodynamic psychotherapy,[3–6] and we had knowledge of an additional 6 published studies. The final sample consisted of 6 RCTs, 4 nonrandomized, controlled trials, and 11 studies with no control groups. Two studies incorporated a wait-list control,[11,27] and 3 an active-treatment comparison group.[28,30,31] Eighteen of these studies employed individual ISTDP; 1 used ISTDP in a group format;[37] and 2 described a residential ISTDP program.[36,44] Treatment was a mean of 18.0 (SD = 15.5) sessions long.

A mean of 6.2 (SD = 8.6) therapists was involved per study. Thirteen studies reported utilizing clinicians who were well trained in ISTDP; three described therapists with little or mixed experience; and three made no reference to therapist experience. Five studies utilized adherence ratings, and seven reported treatment monitoring through videotape supervision.

One study used blinded outcome evaluators,[40] but the others either did not blind the assessors or failed to report on blinding. Two studies reported independently gathered data on health care costs and utilization. ITT analyses were conducted in nine studies, and the remaining studies used completer-only analyses.

Treatment of Personality Disorders

Three RCTs of ISTDP for personality disorders have been conducted.[28,31,41] Hellerstein,[31] Winston,[28] and their colleagues used Davanloo's early technique[7] to treat 25 and 15 patients, respectively, largely with diagnoses of Cluster C personality disorders, including those not otherwise specified.[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 treatment. Hellerstein and colleagues[31] did not find a significant reduction on the Inventory of Interpersonal Problems[45] (IIP) ($p = 0.10$). However, Winston and colleagues[28] found that ISTDP significantly outperformed a wait-list control group on patients' self-rated target complaints (Target Complaints Questionnaire),[46] symptoms (Symptom Checklist [SCL]–90),[47] and the Social Adjustment Scale.[48] Both studies compared ISTDP to alternative short-term psychotherapies. Significant differences on summary scales were not found between comparison groups in these two studies.*

Using Davanloo's enhanced treatment[13] with experienced therapists, Abbass and colleagues[41] treated a comparatively more severe population of patients, including some with borderline, paranoid, and narcissistic personality disorders. Following an average of 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 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, whereas controls did not. This study reported more efficient treatment of a broader range of patients with personality disorders compared to studies of the early version of ISTDP (Winston et al.;[28] Hellerstein et al.[31]): the patients in the study by Abbass and colleagues[41] showed superior gains on the IIP (vs. Hellerstein et al.[31]) and SCL-90 (vs. Winston et al.[28]), required treatment for less time (one-third shorter than in Winston et al.[28]), and represented a broader range of personality disorder categories (vs. both Winston et al.[28] and Hellerstein et al.[31]).

Cornelissen and Verheul[36] reported case-series data from a residential treatment program for personality disorders, in which all patients received individual ISTDP sessions in concert with group psychotherapy and different forms of nonverbal therapy. Patients' self-reported quality of interpersonal relationships improved at discharge and increased further both at 1-year and 3-year follow-up. The long-term effects of all patients completing the program over the last ten years have also been evaluated.[44] From a naturalistic sample of 155 patients, 69% were re-interviewed, with the longest follow-up period being ten years. In that extended sample, treatment effects calculated based on pre-treatment and termination ratings were again in the large range on the SCL-90 and also for general functioning.[43] Comparison of pre-treatment scores and those at longest follow-up revealed that improvement in psychiatric symptoms was maintained and that Global Assessment of Functioning[49] scores significantly improved ($d = 1.5$).

Four further studies included large proportions of patients with personality disorders.[11,33,34,39] Two naturalistic studies with sample sizes of 10 (all with personality disorders) and 89 (over half with personality disorders),

*The term *significant* and its variations are used throughout to refer to statistical significance.

Table 1. Study Characteristics

Study	Study type	*n*	Condition	Outcome measure	Assessment moments	Sample (country)	Diagnosis	ISTDP format (no. of sessions/patient)	No. of therapists	ISTDP method	Adherence rating	Medication use	Outcome analyses	Training
Winston et al. (1991)[27]	RCT	15 17 17	ISTDP BAP Waitlist	SCL-90R SAS Target rating	Pre, post	Clinical (USA)	Personality disorder (DSM-III assessed by PDQ)	Individual (37)	18	Davanloo 1980 + reseach treatment manual	Yes	No	CO	Yes
*Winston et al. (1994)[28,a]	RCT	81	ISTDP BAP Waitlist	SCL-90R SAS Target rating	Pre, post, 1.5-year follow-up	Clinical (USA)	Personality disorder (DSM-III-R)	Individual (40)	24	Davanloo 1980 + reseach treatment manual	Yes	No	CO	Yes
*Baldoni et al. (1995)[29]	RCT	13 23	ISTDP CAU	SQ	4-year follow-up	Other (Italy)	Urethal syndrome & pelvic pain	Individual (12–16)	1	Davanloo 1980 + Malan 1976/1979	No	Yes	CO	Yes
Wiborg & Dahl (1996)[30]	RCT	20	Medication Medication + ISTDP	PAAS	Pre, post, 9-month follow-up	Clinical (Norway)	Panic disorder (DSM-IIIR as assessed by SCID-I)	Individual (15)	1	Davanloo 1978 + Malan 1976 + Strupp & Binder 1986	No	No (other than study medication)	ITT	Yes
*Heller-stein et al. (1998)[31]	RCT	25 24	ISTDP BSP	SCL-90 IIP Target complaint	Pre, post, 6-month follow-up	Clinical (USA)	Personality disorder (DSM-III as assessed by SCID)	Individual (29)	23	Davanloo 1980 + Laikin et al. 1991	Yes	No	CO	Yes
Ghorbani et al. (2000)[32]	RCT	27	ISTDP Nonspecific control	T-helper and T-suppressor cell count	Pre, post	Student population (Iran)	No clinical diagnosis	Individual (6)	1	Davanloo, all publications up to 1999	No[d]	No	Unclear	Yes
*Callahan (2002)[33]	Open	6	ISTDP	GAF	Pre, post	Clinical (USA)	Mixed (DSM-IV clinical diagnosis)	Individual (60)	1	Davanloo 1990	Unclear	Yes	CO	Unclear
*Abbass (2002)[11]	Non-RCT	166 17	ISTDP Waitlist	BSI IIP Cost measure	Pre, post, 1-year follow-ups	Clinical (Canada)	Mixed DSM-IV/-IIIR clinical diagnosis	Individual (16.9)	1	Davanloo 1990	No[d]	Yes	ITT/CO	Mixed experience
Abbass (2002)[34,b]	Open	89	ISTDP	BDI BAI BSI IIP Cost measure	1- & 3-year follow-ups (Abbass, 2003)	Clinical (Canada)	Mixed DSM-IV clinical diagnosis	Individual (14.9)	1	Davanloo 1990	No[d]	Yes	ITT/CO	Yes
*Abbass (2002)[35]	Open	4	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Bipolar I disorder (DSM-IV)	Individual (5)	1	Davanloo 2000 (modified format)	No	Yes, (but medication not changed)	ITT/CO	Yes
Cornelissen & Verheul (2002)[36]	Open	93	Residential ISTDP	SCL-90 NVL	Pre, post, 1- & 3-year follow-ups	Clinical (Netherlands)	Personality disorder cluster B/C (DSM-IV)	Individual	Unclear	Davanloo 1980/1990	No	Unclear	CO	Yes

(Continued on next page)

Table 1. Study Characteristics *(Continued)*

Study	Study type	*n*	Condition	Outcome measure	Assessment moments	Sample (country)	Diagnosis	ISTDP format (no. of sessions/patient)	No. of therapists	ISTDP method	Adherence rating	Medication use	Outcome analyses	Training
*Hawkins (2003)[37]	Open	47	ISTDP	MPQ MAS	Pre, post	Unclear (USA)	Chronic back pain	Group (8)	Unclear	Davanloo 1986	Unclear	Unclear	CO	Unclear
*Abbass (2004)[38]	Open	56	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Mixed common mental disorders	Individual (8.9)	18	Davanloo 1990/2000	No[d]	Yes	CO	Residents in training
*Abbass (2006)[39]	Open	10	ISTDP	HAMD BSI-D CGI-S IIP Cost measure	Pre, post, 6-month follow-up	Clinical (Canada)	Treatment-resistant depression	Individual (13.6)	1	Davanloo 1990	No	Yes (but doses not increased)	ITT	Yes
*Hinson et al. (2006)[40]	Open	10	ISTDP	PMDRS BAI HAMD MMPI-2 GAF	Pre, post	Clinical (USA)	Psychogenic movement disorders	Individual	Unclear	Davanloo 1980	No	Yes	CO	Unclear
Abbass et al. (2008)[15]	Open	30	ISTDP	BSI IIP	Pre, post	Clinical (Canada)	Mixed (DSM-IV clinical diagnosis)	Individual (1)	1	Davanloo 1988 Trial therapy	No[d]	Yes	ITT	Yes
*Abbass et al. (2008)[41]	RCT	27	ISTDP Minimal contact control	BSI IIP GAF	Pre, post, 2-year follow-up	Clinical (Canada/ USA)	Personality disorder (DSM-IV as assessed by SCID)	Individual (27.7)	5	Davanloo 2000	Yes	Yes	ITT	Yes
Abbass et al. (2008)[42,b]	Open	29	ISTDP	BSI Cost measure	Pre, post	Clinical (Canada)	Chronic headache	Individual (19.7)	1	Davanloo 1990	No[d]	Yes	ITT	Yes
*Abbass et al. (2009)[43]	Non-RCT	50	ISTDP CAU	ED visits (*n*) BSI	Pre, post	Other (Canada)	Medically unexplained symptoms	Individual (3.8)	6	Davanloo 2000	Yes	Yes	ITT/CO	Mixed experience
Abbass et al. (2009)[16,c]	Non-RCT	30 20	ISTDP Standard intake	BSI IIP	Pre, post	Clinical (Canada)	Mixed (DSM-IV clinical diagnosis)	Individual (1)	1	Davanloo 1988 Trial therapy	No[d]	Yes	CO	Yes
*Cornelissen et al.[44]	Open	155	Residential ISTDP	SCL-90 GAF	Pre, post, 1- to 10-year follow-ups	Clinical (Netherlands)	Personality disorder cluster B/C (DSM-IV)	Individual	Unclear	Davanloo 1980/1990	No	Unclear	CO	Yes

*These studies were included in the meta-analyses.

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*; ED, emergency department; GAF, Global Assessment of Functioning; HAM-D, Hamilton Depression-Rating Scale; IIP, Inventory of Interpersonal Problems; ITT, intention-to-treat analyses; ISTDP, intensive short-term dynamic psychotherapy; MAS, Manifest Anxiety Scale; MMPI-2, Minnesota Multiphasic Personality Inventory–2; MPQ, McGill Pain Questionnaire; Non-RCT, nonrandomized, controlled trial; NVL, Nieuwkoopse Vragenlijst [Nieuwkoop questionnaire for psychotherapy outcome]; Open, open, naturalistic study (no comparison condition); PAAS, Panic Attack and Anxiety Scale; PDQ, Personality Diagnostic Questionnaire; PMDRS, Psychogenic Movement Disorder Rating Scale; RCT, randomized, controlled trial; SAS, Social Adjustment Scale; SCID, Structured Clinical Interview for DSM-IV; SCL-90, Symptom Checklist–90; SQ, Symptom Questionnaire; USA, United States.

[a]Continuation of Winston et al.[27]

[b]Subsample of Abbass 2002.[11]

[c]Same sample as Abbass 2008.[15]

[d]The study had videotaped supervision but no adherence rating.

respectively, saw scores on all outcome measures move from the clinical to normal range in less than 15 hours of treatment.[34,39] Callahan[33] reported selected naturalistic data ($n = 6$) for patients with mixed Axis I and II diagnoses: mean Global Assessment of Functioning ratings improved significantly following treatment based on Davanloo's early treatment method.[7] In a sample of 30 patients,[15] 87% having personality disorders, the ISTDP trial therapy interview (which has a treatment effect) brought significant gains on all subscales and the global scale (GSI) of the Brief Symptom Inventory[50] (BSI), and the global IIP rating just failed to reach significance ($p = 0.06$). When compared to a standard intake assessment, the ISTDP trial therapy format demonstrated superior outcomes on the BSI-GSI and domineering/controlling subscale of the IIP.[16]

Treatment of Somatic Symptoms

Six studies reported the use of ISTDP for somatic disorders. In an RCT, Baldoni and colleagues[29] 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 four-year follow-up.[29] ISTDP brought 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 ($p < 0.05$). At four-year follow-up, however, only the latter two associations were maintained.

A second RCT compared changes in immune factors in a student population, following either six sessions of ISTDP ($n = 13$) or a verbal-disclosure group setting ($n = 14$).[32] Pre and post measurements found significant changes in immune cell counts (CD4 and CD8) in the ISTDP group relative to the control group.

Hinson and colleagues[40] 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[51] and on self-report measures of anxiety, depression, and general functioning.

Three studies reported that ISTDP was effective in reducing self-reported somatic symptoms.[37,42,43] The first study described an eight-week group ISTDP intervention to promote the experiencing of repressed emotions for patients suffering from chronic back pain.[37] Pre/post data for 47 patients revealed significant changes in self-reported pain scores but not in self-rated anxiety. In a second study,[42] further analysis of pre-published case series data[11] identified a subsample of 29 patients suffering from recurrent headaches treated with ISTDP. 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 were provided to 50 patients presenting to the emergency department with medically unexplained symptoms.[43] 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. By comparison, a control sample of 27 patients referred to the service who never received ISTDP treatment (for various reasons) showed a nonsignificant 42% increase in emergency visits.

Other Psychiatric Disorders

Wiborg and Dahl[30] used a randomized, controlled design to examine the efficacy of clomipramine plus ISTDP versus clomipramine alone for panic disorder. 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-month follow-up versus 25% receiving only clomipramine. When clomipramine was discontinued as part of the study, 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, a mixed sample of 166 patients was provided an average of 16.9 sessions.[11] The sample as a whole was described as "fairly impaired," based on the rate of unemployment and nonresponse rate to medications. After treatment, 86% and 65% of patients no longer met clinical case criteria on the BSI and IIP, respectively. Eighty-one percent of patients returned to work following therapy, and 69% stopped all psychotropic medications. A second article[27] provided detailed clinical and cost-effectiveness data for the 89 patients from this cohort[11] for whom government-provided health care cost data were available. Patients received on average 14.9 sessions, and follow-up data one year post-termination were collected. Large pre- to post-treatment effect sizes (d), ranging from 0.90 to 1.64, were seen on self-reported measures of symptom distress[51] and interpersonal difficulties.[45]

Two further case series offer preliminary data for ISTDP in treating more complex psychiatric disorders.[35,39] In ten patients with treatment-resistant depression, ISTDP showed large effects on self-rated depressive symptoms ($d = 2.52$), clinician-rated depression ($d = 3.9$), and interpersonal problems ($d = 0.87$) after an average of 13.6

sessions.[39] These effects were maintained at six-month follow-up. Four patients with stable bipolar disorder were offered a five-session modified format of ISTDP based on enhancing emotional awareness.[35] At termination, BSI scores had entered the nonclinical range, and mean IIP scores were reduced but remained above the clinical cutoff.

Therapists in Training

Abbass[38] reported data on a series of treatments provided by psychiatry residents in videotape supervision. In this sample, the BSI-GSI improved significantly, to below the clinical threshold, but self-rated interpersonal problems (IIP) did not improve significantly ($p = 0.10$).[39]

Cost-Effectiveness

In total, nine identified studies provided cost-effectiveness data[16,34,36,39,41,42,44,54,55] (see Table 2). As noted, a very short course of ISTDP preceded a 69% drop in emergency visit costs, equating to a net U.S.$504 cost reduction per patient, whereas controls had a nonsignificant increase in costs.[43,55] In two naturalistic studies, reduced use of hospital and mental health services was reported. In the first ($n = 89$), which had a high rate of personality disorders, the cost of hospital services dropped by 85%, and the cost of physicians by 33%, one year post-treatment.[34] Further cost savings accrued over the second- and third-year follow-ups.[54] In the second study ($n = 93$), hospital admissions and mental health appointments dropped significantly.[36] In five studies, reduced medication usage was reported.[15/16,34,39,41,42] Significant reductions in medication usage were found in ISTDP-treated groups versus minimal-contact controls ($p = 0.001$)[41] and a treatment-as-usual group ($p = 0.01$).[16] Large savings from reduced disability claims were reported in five different studies:[34,39,41,42,44] the proportion returning to work after a course of therapy ranged from 32.9%[44] to 100%.[42]

Meta-analysis

Inclusion of studies. From the 21 studies identified in the search, 4[27,34,36,42] were excluded from the meta-analysis because patient data from larger cohort studies were 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 because no common outcome measure was available for comparison,[33] and another because ISTDP was provided as a combined treatment alongside medication.[30] In total, 13 studies comprising 664 participants were included in the meta-analysis. The mean number of participants per study in the ISTDP treatment arm 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 effect sizes (d) for all outcome measures were large, ranging from 0.84 to 1.51, indicating large improvements on measures of general psychopathology, depression, anxiety, and interpersonal functioning. Significant heterogeneity was seen in three of the four outcome categories, indicating results differed from study to study. See Table 3 for details.

We conducted sensitivity analyses in relation to general psychopathology as the outcome measure. For RCTs, the mean pooled effect size ($d = 1.33$; 95% CI, −0.44 to 3.09; $n = 2$) was not significantly different than for nonrandomized, controlled trials ($d = 1.10$; 95% CI, 0.77–1.42; $n = 8$) ($p = .80$). In studies employing intention-to-treat analyses, pre/post effect sizes on general psychopathology measures were substantially higher ($d = 2.03$; 95% CI, 1.49–2.56; $n = 3$) than in the group of studies employing completer-only analyses ($d = 0.96$; 95% CI, 0.63–1.30; $n = 8$) ($p \leq .01$). In the subgroup of studies citing Davanloo 1990 or 2000, a larger mean pooled effect size was found ($d = 1.37$; 95% CI, 0.97–1.77; $n = 8$) than in the subgroup of studies citing pre-1990 publications by Davanloo ($d = 0.58$; 95% CI, 0.19–0.98; $n = 3$). This difference was significant ($p < .05$).

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

ISTDP versus control conditions. ISTDP could be compared to control groups at post-treatment in three studies (Table 2). These included two with wait-list controls,[11,28] and one with minimal treatment control.[41] A large effect size in favor of ISTDP versus controls was seen on measures of general psychopathology. No effect sizes for ISTDP versus control conditions were calculated for the other outcome measures, as relevant data were reported in one or two studies only.

Table 2. ISTDP Cost-Effectiveness

Study	*n*	Control for cost-effectiveness analysis	Reference time period	Hospital services	Health services	Medication (% discontinued)	Medication costs	Disability	Total cost reduction[a]	Return to work
Abbass (2002)[34]	89	Pre vs. post	2 years pre vs. 1 year post	$30,085 savings/patient (85% reduction)	$18,299 savings in physician costs/patient (33% reduction)	71%	$21,790 savings/ patient	$481,780 savings (total)	Net $402,523 in reduced disability, medication, and health care costs	18/22 (82%)
Cornelissen et al. (2002)[36]	93	Pre vs. post	2 years pre vs. 1 year post (long-term data)	90.4% reduction in admissions	35% reduction in psychology/psychiatry appointments				29% more required no health care (compared to 2 years pre-treatment)	
Abbass (2003)[54]	88	Post vs. projections	3-year follow-up						40% reduction vs. projections	
Abbass (2006)[39]	10	Pre vs. post	6 months pre vs. 6 months post	$14,400 savings/patient			$8,880 savings/ patient	$33,600 savings/patient		4/5 (80%)
Abbass et al. (2008)[41]	27	Pre vs. post	Pre vs. 2 years post			81.5% ($p = 0.001$)	$12,636 savings/ patient ($p = 0.005$)	$259,200 savings (total) ($p = 0.015$)	Net $183,000 in reduced disability and medication costs	16/17 (94%) ($p = 0.017$)
Abbass et al. (2009)[16]	30	Pre vs. post Standard interview vs. ISTDP trial	Pre vs. 1 month post			35% ($p = 0.01$)				2/16 (12.5%)
Abbass et al. (2008)[42]	29	Pre vs. post	Pre vs. post				$540 monthly savings/ patient	$16,400 monthly/patient	Net treatment cost offset in <4 months by reduced medication and disability costs	7/7 (100%)
Abbass et al. (2009),[43] 2010)[55]	50	Pre vs. post Control: referred but not seen	1 year pre vs. 1 year post		69% reduction in emergency visits ($p \leq 0.001$)				Net U.S. $504/ patient in reduced emergency visit costs	
Cornelissen et al. (in preparation)[44]	155	Pre vs. post	Pre vs. 1–10 years post							32.9%

ISTDP, intensive short-term dynamic psychotherapy.

[a]Reported cost savings do not include therapy costs, except where indicated as "Net" reductions. Canadian dollars reported unless otherwise noted.

Table 3. Meta-analyses of Studies Examining the Effects of ISTDP

Comparison	*n*	*Cohen's d*	95% CI	*Z*	*Q*	I^2
Pre- vs. post-treatment						
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
Post-treatment vs. follow-up						
General psychopathology	4	0.01	−0.51 to 0.53	0.05	10.44*	71.28
Interpersonal functioning	3	0.12	−0.27 to 0.51	0.60	0.42	0.00
ISTDP vs. control groups post-treatment						
General psychopathology	3	1.18	0.61–1.75	4.09**	4.70	57.44

CI, confidence interval; ISTDP, intensive short-term dynamic psychotherapy.
*$p < .05$; **$p < .01$.

DISCUSSION

Based on these 21 studies conducted in several centers, it is possible to draw some tentative conclusions about the effects of ISTDP treatment. Subject to limitations of this literature and the analyses conducted, the observed large mean effects of treatment provide evidence that ISTDP may be effective for a wide range of patients. The preliminary evidence also suggests that the method is cost-effective in diverse populations.

The most compelling evidence for the efficacy of ISTDP is in the treatment of personality disorders, as reflected in the significant findings of improvement in three independent, fairly rigorous RCTs. This evidence is corroborated by the sustained benefits observed in several naturalistic studies. ISTDP's efficacy in other populations studied remains uncertain 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 evaluations of outcome. Some of the studies appeared to employ non-expert therapists who were in the process of learning the approach—which is arguably not a good test of the method. By contrast, many of these studies were conducted by expert therapists—which may itself 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 psychosocial, medical, and self-help treatments in most studies raises questions about the causes of enduring treatment effects observed in follow-up. The cost-effectiveness data from nine studies are likewise unreliable because of the lack of complete reporting of cost variables, among other methodological limitations (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 comorbidity and of clinicians with various skill levels. Further, outcome data were largely based on the use of standardized outcome measures, thus increasing the potential replicability of the studies. Naturalistic studies and RCT designs complement case-based research, resulting in multiple levels of evidence for this treatment.

We conducted a meta-analysis of this group of studies in order to balance out effects resulting from differences between therapists' experience, countries, research centers, and years in which the studies were undertaken (affecting the particular model of ISTDP available at the time), and thereby to gain a more accurate picture of the present body of research. We found evidence of beneficial effects after-versus-before ISTDP and between ISTDP and controls. In the sensitivity analyses, the findings of greater effects when ITT was performed and of no difference in effects between RCTs and nonrandomized, controlled trials 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 pre-1990 iteration 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 the current economic circumstances of most international health care systems.

Some data suggest that the treatment can be used beneficially in patients with dissociative disorders and more severe personality disorders.[11,41] It is notable that in one study, patients with dissociative disorders appeared not to benefit as much as those with other severe disorders;[11] only one-half to two-thirds responded when treated with this short-term therapy. For better results with this particular population, it may be that longer, but similar, interventions would need to be used.[56]

Future research into ISTDP should include rigorous, head-to-head comparisons versus more interpretative or cognitive varieties of short-term psychodynamic psychotherapy. The method should also be compared to other brief models, such as cognitive-behavioral therapy,[57] in the treatment of specific populations. Blinded outcome ratings, RCT design, ITT analyses, and moderately trained therapists should be used in these studies. Finally, it would be helpful to study the impact of training type (didactic versus supervised) and quantity on the outcome of ISTDP in order to characterize what training is required to deliver the method effectively. In any event, given that studies have shown good outcomes in the hands of trainees and early-career therapists, it is reasonable to infer that that the method is learnable.

The moderate amount of outcome research conducted by Davanloo and subsequent researchers suggests that ISTDP is a short, relatively inexpensive course of treatment that may be both effective for, and applicable to, a broad range of patient populations. Further rigorous, targeted research is needed to answer questions about ISTDP's scope of efficacy and its cost-effectiveness.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

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