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Intensive short-term dynamic residential treatment program for patients with treatment-resistant disorders

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ABSTRACT

Background: The study investigated the effectiveness of an Intensive Short-Term Dynamic (ISTDP) residential treatment program for patients with treatment resistant anxiety- and/or depressive disorders, with and without comorbid personality disorders.
Method: A non-randomized controlled trial examined the effects of an eight week intensive residential treatment program based on principles from ISTDP. Patients ($N=60$), who had repeated prior treatment failure for current mental disorder, sufficient dysfunction to warrant hospitalization, and evidencing capacity to take an intrapsychic perspective on own problems, were included. Outcome variables included measures of target complaints (depression/anxiety, social role dysfunction, and interpersonal distress), general symptom distress, and interpersonal functioning. Measures were administered throughout and after treatment. Change was assessed by multilevel growth curve modeling. Changes during and after treatment were compared to those reported by a sub-sample of wait-list controls taking treatment as usual ($N=30$).
Results: The treatment group evidenced significant improvements on all measures. By contrast, receiving treatment as usual while on the wait-list did not yield significant changes. Effect sizes in the treatment group were consistently large at both termination and follow-up. Fourteen months after treatment 50.0% of patients had recovered in terms of target complaints. Approximately 53.3% and 48.3%, respectively, had recovered in terms of general symptom distress and interpersonal functioning.
Limitations: Limitations included a relatively small sample size, inability to discern the effectiveness of separate components of the treatment program, and lack of randomization of patients to wait-list and treatment.
Conclusion: ISTDP-based residential treatment with an eight-week time-limit appears to be effective for alleviating common and severe, treatment resistant mental disorders. The treatment program was superior to receiving treatment as usual while on the wait-list. Participation in the program quickly reduced target complaints, symptoms and interpersonal problems for patients who, based on previous treatment experiences, were expected to fare poorly in treatment. Gains were consistently maintained or improved further at follow-up. Results are promising for patients with chronic debilitating problems who often do not profit from traditional psychiatric treatment.

1. Intensive short-term dynamic residential treatment program for patients with treatment-resistant disorders

A large percentage of patients in psychiatric care respond inadequately to treatment (see e.g., STAR-D study (Trivedi et al., 2006)). In terms of effect sizes (Cohen, 1988) psychotherapy treatments tend to help about half of treated patients considerably or moderately. A further 20% to 25% are helped to some extent, while those remaining continue unchanged or are deteriorated (Lambert, 2013; Solbakken and Abbass, 2014). In terms of clinically significant change in symptom levels (Jacobson and Truax, 1991), the typical recovery rate for formal psychotherapeutic treatments delivered in well-designed trials is approximately 50% (Lambert, 2013; Lambert and Ogles, 2004). Accordingly, approximately 50% of patients leave treatment with significant clinical symptoms, remain unimproved, or are deteriorated during and after delivery of the intervention (Solbakken and Abbass, 2014). In routine care, i.e. treatment as it is delivered in ordinary treatment settings and outside of organized treatment trials, recovery rates have been found to be considerably smaller. For example, Hansen et al. (2002) found that as many as 65% of patients in a large scale naturalistic study of routinely delivered outpatient treatment

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showed no benefit from interventions, including 8% that were reliably worse off after being treated.

Hence, a large percentage of patients in mental health care can be categorized as non-responders or negative responders who do not benefit as much from treatment as we would hope. If it were possible to alter this state of affairs that would be highly valuable for the unfortunately large number of patients not being helped by the treatments they receive, for therapists delivering those failed treatments today, and for society at large in terms of improving the chances for acceptable mental health for a greater proportion of the population.

Studies of the effects of process–outcome feedback systems on patient responses to treatment (Lambert, 2013; Lambert and Ogles, 2004) shed light on this patient group. The findings indicate that the probability of non-response or negative response increases with more profound functional deficiency, with more problems in interpersonal relatedness, with more severe symptoms, and with the presence of personality disorder. Complexity of the psychiatric problems as evidenced by comorbidity on Axis I and/or II and problem chronicity also predict treatment failure in short-term treatments (Clarkin and Levy, 2004). In studies on session-by-session feedback to therapists and patients about treatment response, it is shown that feedback reduces the prevalence of negative change in psychotherapy, thereby increasing overall effectiveness of treatments (Lambert, 2013). Knowledge about patients at risk for non-response to treatment also comes from studies on personality disorders (see e.g. Abbass et al., 2008; Monsen et al., 1995; Giesen-Bloo et al., 2006; Town et al., 2011). Generally these studies indicate that treatment efforts need to be tailored to the specific needs of these patients to be effective. Usually this means extending treatments in time and intensifying therapeutic efforts by having more frequent meetings with the therapist.

There has been only limited research conducted on treatment tailored to non- and negative responders in psychiatric treatment. Very few studies have specifically selected patients based on previous non-response to treatment and attempted systematic, customized psychological intervention (Solbakken and Abbass, 2014). Such studies can yield important information about possible strategies for improving the rates of treatment response. As a consequence of the research gap, we do not know whether modifications in treatment formats, treatment dose, or treatment content could improve outcome for patients characterized by treatment resistant mental disorders.

However, some studies are accruing on the topic. For example, Stålseth et al. (2012) found that a residential 12-week psychodynamic, existential treatment program for treatment resistant depression produced large improvements across treatment and follow-up both symptomatically and interpersonally for patients with previous treatment failure. Patients in the program outperformed matched controls receiving 12 weeks of residential treatment as usual. The researchers ensured that patients in the two conditions were also matched for contact time with treatment providers. Likewise, Solbakken and Abbass (2014) demonstrated that an ISTDP-based 8-week residential treatment program specifically targeting patients with repeated previous non-response to treatment yielded very good outcome for the majority of patients including a 49% recovery rate in terms of target complaints that remained stable at follow-up one year after the termination of treatment. Also, good results have been reported from research on a hospital setting in the Netherlands for treating personality disorder, most of which had had previous treatment but failed to benefit (Cornelissen and Verheul, 2002). Thus, there are indications that specifically tailored residential treatment systems may be very helpful for patients with treatment resistant disorders.

Other extant research supports the selection of ISTDP as a framework when treating patients with a range of treatment resistant conditions (Abbass et al., 2012). ISTDP has been found clinically and cost-effective in a broad range of case series of psychiatric samples (Abbass, 2002, 2003; Abbass and Katzman, 2013). It has been shown to be effective for patients with repeated non-response to treatment for anxiety and depressive disorders with extensive comorbidity on Axis I and Axis II in an intensive residential treatment program (Solbakken and Abbass, 2013). Also, it has been shown to be effective in an out-patient setting for patients with treatment resistant depression (Abbass, 2006), as well as for patients with for personality disorders (Abbass et al., 2012, 2008; Hellerstein et al., 1998). Finally, it has been found effective for patients with chronic somatic conditions with functional movement disorders (Hinson et al., 2006), with chronic pain (Baldoni et al., 1995), and with medically unexplained symptoms with repeated emergency visits (Abbass et al., 2009). For a more in-depth account of the utilization and application of ISTDP-principles in the treatment program currently under scrutiny readers are referred to Solbakken and Abbass (2014). Extensive descriptions of the ISTDP treatment-model and it's theories of psychopathology and therapeutic change can be found in e.g. Davanloo (1990, 2001), Frederickson (2013) for interested readers.

The present study extends research on the effectiveness of customized, intensive treatment for patients with treatment resistant disorders. It reports novel data on the effectiveness of an intensive time-limited residential treatment program based on ISTDP principles for a mixed diagnostic sample of patients with anxiety and/or depressive disorders (most of which having further Axis I and Axis II comorbidity) who had experienced repeated non-response to previous psychiatric treatment (Solbakken and Abbass, 2014, 2013).

1.1. Aims of the study

The objective of the present study is to test the effectiveness of an ISTDP-based, time-limited treatment program for relieving treatment resistant disorders in residential care in a sample of 60 consecutively admitted patients with anxiety and/or depressive disorders and varying degrees of comorbidity on Axis I and Axis II as compared to taking treatment as usual while on wait-list for entering the program. The study longitudinally examined overall changes in target complaints, general symptom distress, and interpersonal functioning through eight weeks of residential treatment and 30 and 60 weeks after termination of treatment.

2. Materials and methods

2.1. The treatment program and its components

Bearing in mind the long-standing and chronic disorders suffered by these patients and their tendency to fail treatment, the treatment program developed differed substantially from those of traditional routine treatment settings (Solbakken and Abbass, 2014, 2013). First, patients were to be treated in a residential setting in order to reduce the risk of drop-out. Second, a pre-set, non-negotiable time limit of 8 weeks was provided. Third, a highly intensive treatment program with multiple treatment components to be delivered every day was designed. The program combines individual psychotherapy, group-psychotherapy, psychopharmacological treatment (if deemed necessary by the ward psychiatrist), and a number of therapeutic group activities including body awareness training, structured psycho-education, physical exercise, psychosocial training, and milieu-therapy.

Patients entered the program in groups of six patients with each member starting together and terminating eight weeks later. Patients receive weekly individual ISTDP-sessions (90 min each). Patients also receive two 90 min group sessions each week. These group sessions integrate traditional group therapeutic principles (Yalom, 2005) with the ISTDP-based notions of pressure to feeling, building emotional tolerance, and systematic clarification and challenge of defenses. In

addition, there were weekly body-awareness training groups based on principles from psychomotor physiotherapy, two low-intensity physical exercise sessions (walking) pr. week, and weekly psycho-educational lectures covering the treatment process according to ISTDP-theory. Finally, patients participated in weekly art-therapy groups centering on the experience and expression of feelings through guided production of creative and artistic displays.

The therapists delivering the group based treatments were not themselves trained as ISTDP-therapists, but they had all attended several courses and workshops on ISTDP, along with 4 two-day workshops each year for specifically learning and discussing how to implement ISTDP-treatment principles in the program. They were also supervised on a weekly basis by the individual therapists in principles of ISTDP, and had weekly meetings with each other for discussing how to implement ISTDP-principles in the group therapy settings. Furthermore, the treatment team met twice a week for coordinating treatment across modalities and to discuss treatment adherence and ensure that therapist actions were consistent with ISTDP-principles. Group and individual treatments were videotaped and reviewed in these meetings by group- and individual therapists.

In addition to individual and group therapists, patients are provided a primary treatment contact from the unit staff with whom they are encouraged to discuss their development and challenges to the therapeutic process on a day-to-day basis. Patients received consultation by the ward psychiatrist if they used psychotropic medications at intake. These consultations aimed at optimizing the medication regime, or reducing medication use if deemed reasonable by the psychiatrist.

2.2. Theoretical and technical basis of the treatment

The technical intervention apparatus described and detailed by Davanloo (1990) and others (Abbass and Bechard, 2007; Della Selva, 2001) was used as a basis for the individual psychotherapy courses, and adjusted and adapted versions of that system were used to guide intervention in the other components of the treatment. This model has a fundamental understanding of psychopathology as failed integration of affect, cognition, and behavior (Solbakken et al., 2011), with a specific focus on the mobilization of warded off, repressed, or avoided affect associated with pathogenic ruptures to the patient's bonds with attachment figures throughout the course of development (Solbakken and Abbass, 2014).

The model presents a clear conceptualization of various phenomena of resistance and emphasizes their importance for potential failure in psychological treatment. It is one of the approaches in the literature today that most clearly describes how to systematically work with treatment resistance (Della Selva, 2001; Davanloo, 2001; Frederickson, 2013). In the words of Solbakken and Abbass (2013).

"This model offers a conceptually integrated intervention system directed at dealing with both conscious and unconscious maneuvers that prevent genuine emotional closeness, minimize strong affect, and leave the patient in a passive, helpless, compliant, or defiant position vis a vis the therapist. Such defensive processes are considered the principal obstacles to therapeutic engagement and improvement, contributing to eventual treatment failure if not identified and challenged" (p. 517).

2.3. Procedures

Patients were recruited among referrals for in-patient psychiatric care at the residential treatment facility of the Drammen District Psychiatric Center. Patients were referred by practitioners at local out-patient psychiatric clinics, nearby psychiatric hospitals, and by general practitioners in the Drammen area. Patients were screened for the inclusion/exclusion criteria by the intake-team at the residential facility, before eligible candidates completed an evaluation session with a therapist at the unit. Final decision regarding inclusion was made on the bases of prior treatment history, existing diagnostic information, referral information, and the patients' responses to intervention in the evaluation session. Patients offered treatment at the unit were then informed about the study and invited to participate.

Trained coordinators (psychologists) at the unit informed, assessed, and included patients. Diagnostic evaluations were done according to the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (American Psychiatric Association, 1994) by trained assessors on staff. The MINI Neuropsychiatric Interview (Sheehan et al., 1998) was used for assessing Axis I diagnoses. The Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Axis II, Fourth Edition (DSM-IV-R/SCID-II) was used for assessing Axis II personality disorders (First and Spitzer, 1994).

Patients completed a core battery of questionnaires (including measures of symptom distress – the SCL-90-R, interpersonal problems – the IIP-64) pre-treatment and after sessions 3 and 8. The battery was also completed at treatment termination, 6 months post-treatment, and 12 months post-treatment. One 45-item measure of overall level of target complaints (OQ-45.2) was administered prior to every individual treatment session, as well as at termination and 6- and 12-month follow-up. Diagnostic assessments (including the SCID-II) were completed pre-treatment, after termination, and at 12 months follow-up.

2.4. Ethics statement

Participation was based on informed and signed consent. The protocol for the study was evaluated by the Regional Committee for Medical Research Ethics in Southern Norway, Section D (reference: 2010/3261) and a letter of exemption was issued classifying the study as a quality control project and approving dissemination of results.

2.5. Participants

This treatment program strives to alleviate the suffering of patients with treatment resistant anxiety- and depressive disorders with and without comorbid Axis I and II disorders. Due to the high prevalence of these disorders, this group represents the majority of non-responding or treatment resistant referrals (Solbakken and Abbass, 2014).

2.5.1. Inclusion criteria

Adult patients (aged 18–70) were eligible to participate if they:

A.) Satisfied criteria of need for hospitalization for psychiatric treatment, including deficient general functioning and loss of function in multiple domains (e.g., inadequate self-care, severe breakdown in relational, occupational, and/or personal functioning).

B.) Had a known history of treatment-resistant disorder. This was defined as failure to respond with symptomatic relief and improved occupational or interpersonal functioning to three or more prior attempts at treatment for the ongoing psychiatric disorder. “Failure to respond” was concluded with if there was no subjective report of improvement and continuing need/wish for treatment from the patient, along with referral from a treatment provider (psychologist/psychiatrist/general practitioner) who assessed the patient to be a non-responder to previous treatments. The previous treatment attempts could be either medication efforts or psychotherapeutic/psychosocial efforts, or most commonly a combination of both.

C.) Were capable of taking an "intrapsychic perspective" on their problems during the evaluation session, i.e. the ability to regard one's problems as the result of difficulties in dealing with feelings, thoughts, and reactions to self/others.

All three criteria were to be fulfilled for inclusion. Comorbid Axis-I and Axis-II disorders were allowed, as were medications with the exception of daily intake of sedatives.

2.5.2. Exclusion criteria

Patients were excluded if they satisfied one or more of the following criteria:

A.) Psychotic disorder (except short, reactive psychotic episodes).
B.) Bipolar disorder type I.
C.) Dissociative identity disorder.
D.) Addiction of such severity that detoxification was indicated (after which entering treatment is possible).
E.) Psychiatric disorders secondary to known medical conditions.
F.) Mental retardation.
G.) Insufficient command of the Norwegian language.
H.) Acute suicide risk and history of severe acting out and other serious problems with impulse control.

2.6. Therapists and training

2.6.1. Individual therapists

There were a total of seven therapists providing individual treatments in the study. All individual therapists are trained and certified psychologists. They participated in a three-year core training program in ISTDP delivered by internationally renowned tutors prior to and partly during the time that data was collected; all had completed a minimum of two years of training when data collection started and all completed the three-year training as planned. Completion of two years of training was considered adequate for ensuring sufficient competence in delivering ISTDP. Further internet based case supervision of treatment video-recordings was provided for the individual therapists every two to three weeks by the second author for advanced training and to verify adherence to treatment (Abbass, 2004; Abbass et al., 2011). All cases were reviewed at least once in this process and the treatments delivered were classified as adequate in terms of therapist adherence and competence. The treatment model was based on Davanloo (2000) and is described in articles and an upcoming book which is a manual for the treatment provided called "Reaching through Resistance" (Abbass, 2015).

2.6.2. Therapists providing other treatment components

The group-psychotherapists were highly experienced, trained, and certified in traditional psychodynamic group psychotherapy. They developed the synthesis of ISTDP-principles and traditional group therapeutic ideas adhered to in the group psychotherapy component of the program. The body awareness instructor/physiotherapist was highly experienced, specialized and certified in psychomotor physiotherapy. The therapist administering art therapy was certified and highly experienced. In body awareness- and art therapy groups the therapists were assisted by trained members of staff. Finally, the members of staff providing milieu-therapy were all trained and highly experienced in this format. Peer supervision for all therapists and members of staff took place on a weekly basis in the unit. The psychiatrists administering medications were highly experienced and certified clinical specialists.

The therapists delivering non-individual components had attended several case-based workshops on ISTDP. They were, however, not specifically trained as ISTDP therapists. They were supervised by the individual therapists in principles of ISTDP while delivering their treatments and had weekly meetings with each other for discussing how to implement ISTDP-principles in the group therapy settings and ensure treatment adherence. Group therapists and individual therapists had two weekly meetings for coordinating treatment across modalities, discuss treatment adherence and ensure that therapist actions were consistent with ISTDP-principles.

2.7. Assessment Instruments

2.7.1. Target complaints (symptoms of anxiety/depression, relationship-, and social role functioning) – total distress – score on the outcome measure 45.2 (OQ-45.2)

The OQ-45 is a symptom-, distress-, and functioning inventory developed by Lambert et al. (1994). It has been demonstrated to be highly useful for examining the effectiveness of psychotherapy (Kadera et al., 1996). It assesses "overall patient functioning". Scores are commonly used to track changes in symptomatology on a session-by-session basis. The OQ-45.2 consists of 45 items gauging various aspects of psychological distress and functioning on a 5-point Likert scale. Responses refer to the last seven days ranging from "never" to "almost always". Sum scores are computed with higher ratings representing increasing levels of psychopathology. The OQ-45.2 focuses mainly on symptoms of anxiety and depression, interpersonal distress, and problems related to social role functioning (e.g. occupational problems). It thus neatly summarizes the principal complaints of the patients that the current treatment program was developed for relieving. Cronbach's alpha for the Total Distress-score (mean across all 45 items) of the OQ-45.2 in the study sample at intake was 0.93.

2.7.2. General symptom severity, symptoms of depression, and symptoms of anxiety – the symptom checklist-90, revised (SCL-90-R)

The SCL-90-R assesses symptom distress on nine symptom dimensions and three global indexes (Derogatis et al., 1974). Intensity of 90 symptoms during the last seven days is rated on a five point Likert scale ranging from *not at all* (0) to *very much* (4). The Global Severity Index (GSI), the average score across all 90 items, is regarded a robust and useful indicator of levels of overall psychological distress (Hill and Lambert, 2004). Cronbach's alpha for the GSI in the study sample at intake was 0.96. The anxiety- and depression scales of the SCL-90-R (consisting of 10 and 13 symptom-specific items each) were used for assessing the severity of these specific symptoms at baseline. Cronbach's alpha for these scales were 0.80 and 0.89, respectively.

2.7.3. Interpersonal problems – the inventory of interpersonal problems (IIP-64)

Interpersonal problems were assessed using the 64 item IIP-circumplex version (Horowitz et al., 2000). The IIP-64 consists of two types of items. The first 39 items begin with the phrase: "It is hard for me to…" The remaining 25 items represent "Things that you do too much." Each item is rated on a five point Likert scale ranging from *not at all* (0) to *very much* (4). The average score across the 64 items is used as an indicator of the overall level of interpersonal problems (IIP-Global) and has been consistently linked to both symptom severity and negative affectivity (Tracey et al., 1996). Cronbach's alpha for the IIP-Global in the study sample at intake was 0.93.

2.8. Statistical analyses

When analyzing the effectiveness of the treatment as compared to wait-list, multilevel modeling was applied using linear mixed models in the SPSS/PASW, version 18.0. The use of multilevel modeling for the analysis of longitudinal data, in this case

repeated measurements within the treatment courses of individual patients, is thoroughly recommended by experts in the field (e.g., Hox (2010, Singer and Willett (2003)). In longitudinal data, measurements are nested within individuals. Measurements represent units at the first level and individuals represent units at the second. Singer and Willett (2003) have proposed the following requirements for longitudinal multilevel analyses: (1) all variables should be collected at three or more measurement waves, (2) a continuous outcome variable changes systematically over time, and (3) a meaningful unit for time is included. Each of these requirements is met by the design of the present study. The data consists of up to 12 measurements at level 1 which are related to each individual at level 2.

A big advantage of multilevel modeling is that variation in the number of measurements across individuals does not represent a problem (e.g., Hox (2010, Singer and Willett (2003)). This allows for variation in number of assessments during a time series, so that all cases assessed more than two times can be included in the calculation of both slope and intercept of the multilevel models. In the present study all patients had sufficient data for modeling the treatment phase. Thus, there is no bias of the corresponding outcome estimates due to cases lost through drop-out or otherwise missing data. In the follow-up phase 11 cases delivered no data, and 17 delivered only one protocol. Therefore, to avoid inflating estimates of change, we used intention to treat-analyses (ITT) with the last estimated observation carried forward to include all cases in the analyses of the follow-up phase.

Multilevel modeling offers a variety of possible ways of defining and treating the passage of time and measurement occasions (Hox, 2010; Singer and Willett, 2003). In the present study we are primarily interested in identifying the *overall response* to treatment at termination and during a follow-up period of 14 months for patients completing treatment courses of identical length and content. Accordingly, assessments are treated as fixed occasions and placed at a constant distance across patients. This means that all measurements within the time series for each patient are distributed so that the relative temporal displacement of each assessment occasion is retained and respected. We thus combine precise and realistic models of individual patterns of longitudinal development while harnessing the statistical power of multilevel modeling to estimate both the overall magnitudes and absolute rates of change.

2.8.1. Preparatory data analyses

In multilevel modeling visual inspection of raw score- and individual ordinary least squares (OLS) plots are undertaken to determine whether linear or nonlinear models will best fit the data, and whether the majority of developmental trajectories are best described by a one-piece, two-piece, or multi-piece model (Singer and Willett, 2003). Such inspection was done systematically for all dependent variables. A two-piece linear trajectory appeared best suited for the majority of individual cases across outcome variables. The first piece represents the treatment phase; the second piece represents the follow-up phase.

2.8.2. Multilevel modeling

The multilevel models contained two levels of analysis representing repeated measurements over time nested within individuals. Before the analyses, dependent variables were centered so that intercepts were estimated at the time value of zero, thus removing problems with interpretation of intercept values (see e.g. Singer and Willett (2003)). The analyses investigating change on the three general outcome-variables began by computing a null model for each phase which only contained the fixed effect of the linear time variable (time), along with a random effect of the intercept. This served to assess the variation in each dependent variable across times of measurement (model 0). As the second step, a random effect of time was added, thus allowing developmental slopes to vary independently across individuals (model 1). This procedure estimates the magnitude of change on each outcome variable and tests the significance of those changes. Wait-list data were analyzed together with patient data from the treatment phase. To test statistically whether the treatment- and wait-list groups changed differently on the outcome variables, a treatment (treatment vs. wait-list) by time interaction term was entered into the models. A significant treatment by time interaction term in these multilevel models shows that controls and treated patients have significantly different mean change trajectories.

2.8.3. Effect sizes

For examining and comparing the magnitude of change, effect sizes (ES – Cohen's *d*) were calculated by dividing estimated change scores by their corresponding standard deviations. In order not to underestimate error and inflate effect sizes, estimated changes were divided by the pooled standard deviations of all relevant measurement points on the outcome variables. Thus, the pooled standard deviations of estimated scores across all measurement points on each outcome variable were used when estimating the effect sizes. Cohen's (1988) standards for evaluating the magnitude of effect sizes were utilized, classifying small effects as $d=0.2–0.5$; medium effects as $d=0.5–0.8$; and large effects as $d>0.8$.

2.8.4. Clinically significant change

The concept of clinically significant change according to Jacobson and Truax (1991) operationalizes whether or not patients return to normal functioning. Clinically significant change occurs when a patient moves from a dysfunctional population to a functional or normal population during treatment and the magnitude of that patient's change is statistically reliable. A patient whose improvement meets both of these criteria is classified as recovered (having returned to normal functioning). On the basis of these criteria, patients are categorized as (1) recovered, (2) reliably improved but not recovered, (3) unchanged, or (4) deteriorated, in the case of reliable negative change. Estimated patient scores at the termination of treatment and after 12-months follow-up were compared to scores for general community samples on the three outcome variables.[1]

3. Results

3.1. Sample characteristics

A total of 60 patients consecutively admitted to the unit comprised the treatment sample for the present study. In the sample, the mean age was 39 years (SD: 10.8, range: 19–62), 65.6% were female. A total of 88.3% had diagnoses of affective disorders (recurrent major depressive episode: 56.7%, major depressive episode: 20.0%, dysthymia: 30.0%, bipolar disorder type II: 6.7%). Anxiety disorders were present in 71.7% (social phobia: 31.7%, agoraphobia: 28.3%, general anxiety disorder: 28.3%, panic disorder: 23.2%, PTSD: 3.3%). A further 20.0% had substance-related

[1] For the OQ-45.2, standard values reported in the OQ-45 Administration and scoring manual (Lambert et al., 2004) was used for providing estimates for clinical cut-off (63 and below) and reliable change (14 points or more) to ease interpretation for the reader. In addition, for those who are interested, estimates calculated on the basis of the Norwegian normative sample by Amble et al. (2014) are given in the note in Table 3 (the clinical cut-off value in this case was 69.33, change scores higher than 12.09 were reliable). For the SCL-90-R a Norwegian normative sample by Vassend et al. (1992) was used for calculating the clinical cut-off (cut-off value = 0.87), change scores of 0.32 points or higher were reliable. For the IIP-64 a Norwegian normative sample by Monsen et al. (2006) was used (cut-off value = 1.37), change scores of 0.25 points were reliable.

disorders (alcohol dependency: 15%, drug abuse: 5%). Somatoform disorders were diagnosed in 16.7% (hypochondria: 8.3%, body dysmorphic disorder: 8.3%, somatoform pain disorder: 3.3%). Finally, 6.7% had eating disorders (bulimia). Mean number of Axis I diagnosis for patients was 2.87 (SD: 0.71). A total of 56.7% had one or more personality disorders (Cluster C: 23.3%, Cluster B: 10.0%, Cluster A: 11.7%, Nos.: 23.3%). All patients fulfilled criteria for Axis I affective disorder or anxiety disorder or both.

To further determine the severity of psychological problems in the sample, we compared self-reported scores on overall distress (OQ-45.2 total distress), general psychological symptoms (the GSI of the SCL-90-R), symptoms of anxiety (the anxiety-scale of the SCL-90-R), and symptoms of depression (the depression-scale of the SCL-90-R) to normal reference data (see footnote 1 for information on the normal reference samples used). For overall distress the study sample mean was 3.38 standard deviations above the mean of the normal reference sample. For general psychological symptoms the study sample mean was 3.29 standard deviations above the mean of the normal reference sample. For symptoms of anxiety the study sample mean was 2.67 standard deviations above the mean of the normal reference sample. Finally, for symptoms of depression the study sample mean was 3.29 standard deviations above the mean of the normal reference sample (in all comparisons SDs were taken from the normal reference data).

All participants reported having received three or more treatments for their current episode of psychological disorder prior to being referred. In the year prior to entering the program 76.7% had received psychotherapy, 75% received psychopharmacological treatment, 55% had frequently consulted their primary physician for the current psychiatric disorder (mean number of visits was 13), 21.7% received group psychotherapy, 15% had been admitted to psychiatric hospital (mean number of hospitalizations for this subgroup was 2), 6.7% had received services from community psychiatric teams, and 5% received psychomotor physical therapy.

The psychological treatments reported were highly variable in content and length (mean duration in individual treatment was 25 sessions, group treatments were on average 16 sessions). We know little about what kind of theoretical orientations were employed or the extent to which treatment principles from those orientations were competently adhered to. Medical treatments were also highly variable. At the onset of treatment in the program 63.3% received antidepressants, 26.7% received tranquilizers, 10% received mood stabilizers, 6.7% received antipsychotics, and 10% received sleeping medications. Little is known about the patient's treatment compliance with the medical regimes. However, both psychological and medical treatments can be considered “treatments as usual” as delivered in the Norwegian national mental health care system.

The wait-list control group comprised a total of 30 patients who were later accepted into the program. The control group is a subsample of the treatment group, so all controls went on to receive treatment in the program and be part of the treatment sample. The controls were assessed prior to the evaluation session and again in the week before entering treatment at the unit. Mean time on the waiting list was 10 weeks. Descriptive-, diagnostic-, use of medications-, and previous treatment data in the wait-list group was highly similar to those for the total treatment sample (as would be expected, since the wait-list controls are a subgroup of the treatment sample).

Participants received treatments as usual during their time on the wait list. For the majority (86.7%), this consisted of individual psychotherapy sessions at the local out-patient clinic (usually weekly but varying between once a week and once a month). A total of 70% received psychopharmacological treatments. A sub-group (30%) participated in a group-based treatment with weekly meetings in addition to or instead of individual therapies. Two patients (6.6%) received psychomotor physical therapy every second week. One patient (3.3%) received only supportive interventions (supportive meeting with psychiatric nurse) from local community psychiatric services every two to four weeks. Two patients (6.6%) reported only having contact with their general physician while on the wait-list. Finally, one patient (3.3%) reported no contact with any treatment provider while on the wait-list.

3.2. Patient flow and data completeness

In total, 79 patients were referred to the unit in the study-period. Thirteen patients either did not show up for their evaluation session, or withdrew their application after being accepted into the program but before treatment onset. The main reason given was that the treatment was too time-consuming. 6 patients were evaluated and not offered treatment, due to either not satisfying one or more criteria of inclusion, satisfying one or more criteria of exclusion, or both.

Of the 60 patients entering treatment, all but 1 patient completed the program. This particular patient chose to end treatment in week 4, but did deliver complete self-ratings according to schedule in weeks 0 through 5. All other patients delivered complete data for the treatment phase. Thirty-two patients delivered complete follow-up data. A further 17 patients delivered follow-up data at least once (7 at 14 months, 10 at 6 months). Eleven patients were lost to follow-up. With the use of an intention-to-treat paradigm and multilevel modeling this means that for both the treatment- and follow-up phases all 60 patients had separate growth curves estimated and thus are included in the analyses. The 11 patients who did not deliver follow-up data had their final estimated score (the growth-curve estimate at the end of treatment) carried forward in the statistical analyses of the follow-up phase in order to avoid inflating effects due to selective attrition.

3.3. Effectiveness of treatment compared to wait-list

Results of the multilevel models for each outcome variable for patients during the treatment phase and while on the wait-list are presented in Table 1. The analyses demonstrated statistically significant improvements on all three outcome measures for patients during treatment. Changes on the wait-list were not statistically significant for any of the outcome measures. In addition, statistically significant interactions between time and treatment condition (treatment vs. wait-list) for all outcome variables demonstrated that, in terms of improvement, taking treatment was statistically superior to spending time on the wait-list.

Results from multilevel models for each outcome variable during the follow-up phase after end of treatment are presented in Table 2. Improvements attained in treatment remained stable for both the OQ-45.2 Total Distress-score and the GSI of the SCL-90-R over a 14 month follow-up period as indicated by the non-significant effect of time. However, a significant effect of Time was found for the overall level of interpersonal problems (IIP-Global), demonstrating significant post-therapeutic improvement in interpersonal functioning.

When looking at each outcome variable in more detail, we see that for the total distress-score of the OQ-45.2, the intercept, i.e., the mean baseline value across the patients' individually calculated growth curves, was estimated to be 96.36 for patients in the treatment sample. Overall mean change across the treatment phase was estimated to be a reduction of 30.48 points. The rate of change during treatment was estimated at an average decrease of 3.81 points each week. As we have seen, there was no significant change in the follow-up phase on the OQ-45.2. For patients on the wait-list the intercept of the OQ-45.2 Total Distress-score was estimated at 101.29 (4.96 points higher than the treatment sample mean, a non-significant difference). Finally, a non-significant overall reduction of 2.32 points was estimated for patients during their time on the wait-list.

Table 1
Results of multilevel growth curve analysis: mean estimates of intercepts and rates of change in target complaints, general symptoms, and interpersonal problems during therapy and on while on wait-list.

	OQ-45 total distress		GSI of the SCL-90-R		IIP-64 global score	
	Model 0 Estimate	Model 1 Estimate	Model 0 Estimate	Model 1 Estimate	Model 0 Estimate	Model 1 Estimate
Fixed effects						
Intercept						
Treatment	96.45 (2.12)	96.36 (1.90)	1.589 (0.076)	1.586 (0.071)	1.764 (0.064)	1.762 (0.061)
Wait-list	101.29 (3.14)	101.29 (2.77)	1.878 (0.139)	1.879 (0.129)	1.809 (0.100)	1.810 (0.095)
Time						
Treatment	−3.87** (0.18)	−3.81** (0.34)	−0.096** (0.009)	−0.096** (0.011)	−0.055** (0.012)	−0.054** (0.013)
Wait-list	−0.29 (0.32)	−0.29 (0.43)	−0.002 (0.017)	−0.002 (0.021)	−0.005 (0.017)	−0.006 (0.002)
Time × treatment	−3.57** (0.36)	−3.52** (0.53)	−0.094** (0.019)	−0.094** (0.024)	−0.050* (0.020)	−0.048* (0.024)
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Residual	109.90** (7.12)	67.67** (4.86)	0.13** (0.013)	0.083** (0.011)	0.132** (0.014)	0.084** (0.012)
Variance in intercept	230.17** (37.28)	193.38** (34.02)	0.260** (0.049)	0.248** (0.050)	0.140** (0.029)	0.158** (0.043)
Variance in slopes	–	4.24** (0.82)	–	0.004** (0.006)	–	0.009** (0.003)
AIC	4523.14	4409.90	401.14	378.53	363.92	348.66

Note: standard errors are in parenthesis. Estimations were done by the method of restricted maximum likelihood (REML). Model 0 on each outcome variable keeps rates of change constant across patients, while Model 1 allows rates of change to vary. As can be seen by the significant variance in slopes for all outcome variables and corresponding decreases in the AIC-fit index from Models 0 to 1, Model 1 is preferable in all cases.

* $p < 00.01$.
** $p < 0.05$.

Table 2
Results of multilevel growth curve analysis: mean estimates of intercepts and rates of change in target complaints, general symptoms, and interpersonal problems during the follow-up phase.

	OQ-45 total distress		GSI of the SCL-90-R		IIP-64 global score	
	Model 0 Estimate	Model 1 Estimate	Model 0 Estimate	Model 1 Estimate	Model 0 Estimate	Model 1 Estimate
Fixed effects						
Intercept	66.18** (3.22)	66.18** (3.04)	0.967** (0.082)	0.967** (0.080)	1.339** (0.077)	1.338** (0.077)
Time	0.002 (0.03)	0.002 (0.04)	−0.001 (0.001)	−0.001 (0.001)	−0.002* (0.001)	−0.002* (0.001)
	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
Residual	98.51** (12.67)	56.04** (10.15)	0.066** (0.009)	0.53** (0.010)	0.068** (0.009)	0.068** (0.009)
Variance in intercept	554.13** (107.25)	515.85** (103.05)	0.349** (0.069)	0.345** (0.072)	0.299** (0.006)	0.305** (0.067)
Variance in slopes	–	0.05** (0.02)	–	0.00 (0.00)	–	0.000 (0.000)
AIC	1538.30	1526.33	209.52	210.42	203.68	207.63

Note: standard errors are in parenthesis. Estimations were done by the method of restricted maximum likelihood (REML). Model 0 on each outcome variable keeps rates of change constant across patients, while Model 1 allows rates of change to vary. As can be seen by the significant variance in slopes for the OQ-45 total distress and corresponding decrease in the AIC-fit index from Models 0 to 1, Model 1 is preferable in this case. However for the two other outcome variables there was no significant variance in slopes, hence model 0 was preferable in these two cases.

* $p < 0.01$.
** $p < 0.05$.

For the GSI of the SCL-90-R the intercept in the treatment sample was estimated to be 1.59. Overall change across the treatment phase was estimated to be a reduction of.67 points. The rate of change during the treatment phase was a decrease of 0.084 points per week. During the follow-up phase scores remained stable with no significant change in the 60 weeks after termination of treatment. For patients on the wait-list, the intercept of the GSI was estimated to be 1.88 (0.293 points higher than the treatment sample mean – non-significant difference). A non-significant overall reduction on the GSI of 0.02 points was estimated while on the wait-list.

Finally, for the overall level of interpersonal problems the intercept in the treatment sample was estimated at 1.76. Overall change across the treatment phase was estimated to be a reduction of 0.32 points yielding a rate of change during treatment of 0.041 points per week. In the follow-up phase there was a significant continuing improvement of 0.11 points on the IIP-Global. Total reduction in interpersonal problems over treatment and follow-up phases thus averaged 0.43 points. For patients on the wait-list, the intercept of the IIP Global was estimated to be 1.81 (0.05 points higher than the treatment sample mean – non-significant difference). A non-significant overall reduction on the IIP-global of 0.04 points was estimated for patients while on the wait-list.

3.3.1. *Effect sizes*

In order to compare results across outcome variables, effect sizes were computed. Fig. 1 displays the effect sizes as compared with pre-

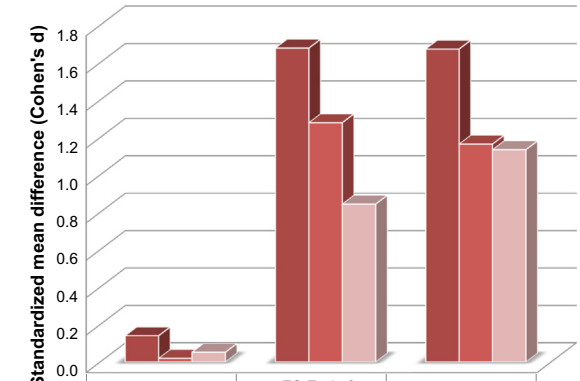

Fig. 1. Estimated effect sizes for patients while taking treatment as usual on the wait-list and patients in treatment at termination and after 14 months follow-up across the three outcome domains. Note: OQ-45.2 – total distress score on the OQ-45.2. GSI – general severity index of the SCL-90-R, and IIP Global – overall level of interpersonal problems on the IIP-64.

Table 3
Changes in clinical status from baseline to termination and 14-month follow-up of patients with treatment resistant disorders who received the eight-week treatment program.

	Percentage of Patients	
	Baseline to termination of treatment	Baseline to 14-month follow-up
Measure and status		
OQ-45.2[a]		
Recovered	48.3	50.0
Improved	33.3	23.3
Unchanged	18.3	26.7
Deteriorated	0.0	0.0
SCL-90-R		
Recovered	53.3	53.3
Improved	31.7	18.3
Unchanged	11.7	26.7
Deteriorated	3.3	1.7
IIP-64		
Recovered	31.7	48.3
Improved	20.0	23.4
Unchanged	48.3	25.0
Deteriorated	3.3	3.3

[a] When using estimates of reliable and clinically significant change for the OQ-45.2 based on the present sample compared to normative reference data, the percentage of recovered cases was 56.7 at termination and 53.3 at 14 month follow-up. The additional percentage of reliably improved cases was 28.3 at termination and 23.3 at 14 month follow-up. None were deteriorated.

treatment status for each outcome variable at termination and 14 months follow-up, along with the effect sizes for patients on the waiting list. The Total Distress score of the OQ-45.2 displayed the largest effects, with the GSI and IIP Global having somewhat smaller effects. Effect sizes were highly similar at termination and 14 months after treatment except for the IIP Global, which yielded an increase in effect size from termination to follow-up of 0.30. All effects in the treatment sample were large according to Cohen's classification. Effect sizes while on the wait-list were trivial.

3.3.2. Clinically significant change

The percentages of patients in each of the four categories defining the clinical significance of outcomes at termination and 14 month follow-up are shown in Table 3. The percentage of patients recovered on the OQ-45.2 was 48.3 at termination and 50.0 at 14 months follow-up. The percentage of patients unimproved on this measure increased from 18.3 to 26.7 from termination to follow-up. In total 81.7% of patients had experienced reliable improvement on target complaints at termination, and 73.3% were still reliably improved 14 months after treatment (the reduction in number of improved cases after termination was non-significant, $z=-0.1093$, $p=0.28$).[2] No patients were deteriorated on the OQ-45.2 at either termination or follow-up.

The percentage of patients recovered on the SCL-90-R remained stable at 53.3 from termination through follow-up. In total 85.0% of patients reported reliable gains on the GSI at termination. This number decreased to 71.3% during follow-up (a non-significant decrease, $z=-1.7727$, $p=0.08$). 11.7% were unimproved at termination increasing to 26.7% 14 months after treatment. This increase was statistically significant ($z=2.0873$, $p=0.04$). There was also a reduction in improved cases from 31.7% to 18.3% from ended treatment to follow-up, this change was however not statistically significant ($z=-2.0873$, $p=0.09$). Two patients deteriorated during treatment on the GSI of the SCL-90-R, one of which remained deteriorated 14 months after treatment. The other deteriorated case reliably improved as compared to intake-score during the follow-up phase.

Finally, on the IIP-64 the percentage of patients recovered was 31.7 at termination increasing to 48.3 a year after treatment.[3] The increase was close to, but not statistically significant ($z=-1.8634$, $p=0.063$). 48.3% were unimproved at termination dropping to 25% a year later (non-significant change). In total 51.7% of patients reported reliable improvements at termination. 71.7% reported reliable gains as compared to baseline one year after treatment (a significant increase from termination, $z=2.2531$, $p=0.024$). A total of two patients deteriorated on the IIP-64 in the treatment phase. One of them improved in the follow-up phase, the other remained deteriorated. In addition, one other patient who was unchanged during treatment deteriorated in the year after treatment.

By comparison, while on the wait-list no patients recovered, 5 were reliably improved, and 1 was reliably deteriorated on OQ-45.2 Total Distress. Similarly, no patients on the wait-list recovered on the GSI, 2 were reliably improved, and 1 was reliably deteriorated. Finally, no patient on the wait-list recovered on the IIP-Global, 4 were reliably improved and 3 were reliably deteriorated.

4. Discussion

This study indicates that an ISTDP-based in-patient treatment program can be highly effective in treating patients with highly comorbid, treatment resistant disorders. Treated patients reported considerable reductions in overall symptomatology, interpersonal problems, and target complaints (anxiety/depression, relational difficulties, and social role dysfunction). Effects were large, accrued quickly, and persisted more than a year after treatment. A total of 48.3% to 53.3% (depending on the outcome variable examined) of

[2] All comparisons with significance testing of proportions presented in this section were done by a two-tailed z-test.

[3] If we restrict the analysis of percentage of patients recovered on the IIP-64 to patients in the dysfunctional range at baseline, the recovery rate increases to 34.5% at termination and 52.7% a year after treatment, as a total of 5 patients were in the functional range on this measure when entering the program. For the other two outcome measures only 2 (OQ-45) and 3 (GSI) patients respectively were in the functional range when entering treatment, so for these measures restricting the analysis to those dysfunctional at baseline becomes less meaningful.

patients were recovered at follow-up, and 71.6% to 73.3% were reliably improved; in our opinion these are noteworthy rates for patients with a history of being non-responders to previous treatments.

Effect sizes were consistently large across all outcome domains, ranging from 0.84 to 1.68 at the end of treatment and 1.14 to 1.67 at follow-up 14 months after treatment termination. These effects are classifiable as large. They are statistically comparable to or greater than those commonly found in studies of standard outpatient samples (even though such comparison should be done with caution). In contrast, the changes occurring while receiving treatment as usual during time spent on the wait-list were negligible or non-existent. The lack of effects while taking treatment as usual in the wait-list condition is probably to be expected with this treatment population, as they have been selected on the basis of not improving across time in previous treatments and while waiting for those treatments. Based on these figures, intensive psychodynamic time-limited residential treatment (ISTDP-based in this case) appears to be a valuable alternative for patients who do not respond to standard treatment formats. Hence, this study corroborates the conclusions drawn in a previous study of this treatment program (Solbakken and Abbass, 2013).

It is notable that only one patient dropped out of treatment. One may speculate that the highly intensive, residential treatment format prevented drop-out for this group of patients to a larger extent than would be expected in standard outpatient care. It may be that this prevention of drop-out contributes substantially to the production of overall treatment gains in the treatment program. The finding of low drop-out rates is mirrored in the previous study on another sample from the same program (Solbakken and Abbass, 2013), in which also only one patient terminated before treatment completion, indicating that this may be more than just a chance finding.

Improvement during treatment occurred rapidly. And in addition to the rapidity with which changes occurred, they were consistently sustained in follow-up. This may indicate, as speculated by Solbakken and Abbass (2013), that highly intensive, residential treatment may not only increase the effectiveness of treatments for this group of difficult to treat patients, but may also produce an increase in the speed of improvement as compared to standard outpatient care. This finding may have substantial implications for the delivery of mental health care services. For this long-suffering high-resource using population, more expensive residential treatment may pay off in the end, and be preferable to more economical, but perhaps less effective, out-patient treatment. Some other studies also point in this direction (e.g., Stålseth et al. (2012), Cornelissen and Verheul (2002), Solbakken and Abbass (2013)). However, further studies will be needed to bolster this conclusion.

For changes in interpersonal problems, a significant and clinically meaningful post-treatment growth was detected. There was an increase in the effect size from termination to follow-up of $d=0.30$, constituting a moderate effect. This is an interesting finding, especially since interpersonal problems are commonly considered more difficult to alleviate than symptomatic distress and change in this area often is thought to reflect a more gradually accruing process. This post-treatment development may indicate an especially pertinent improvement for patients with treatment resistant disorders, and their long-standing use of health care services with little benefit. The interpersonal improvements the patients experience during and after treatment may be indicative of not only increased capacity for interpersonal functioning, but also of a possible reduction in the need for mental health care services now and in the future.

There are different possible explanations for the identified post-treatment interpersonal growth. It may be that the short-term and intensive treatment offered needs extra time to manifest itself in terms of its full potential for interpersonal progress. Another possible interpretation is that the treatment program, with its extensive focus on interpersonal functioning and dealing effectively with difficult emotions elicited by interpersonal interactions, may have engendered in many of these patients a new set of interpersonal skills and capacities that they brought with them into their daily lives after being discharged from the program. This newfound capacity may then in turn have led the patients' into more positive patterns of interaction with others, producing benign spirals in their relationships and a consequent reduction in interpersonal problems.

However, our finding of post-treatment interpersonal growth must be regarded preliminary and we believe it should be interpreted with caution, since it was not detected in the previous studied sample of patients from the same program (Solbakken and Abbass, 2013). At the same time, a meta-analysis of 46 Short-term Psychodynamic Psychotherapy studies did find a significant increase in personality measure gains in follow-up (Town et al., 2012), suggesting that unique features of this therapy may produce what have been termed sleeper effects (Blatt and Shahar, 2004).

The study had certain strengths. First, treatment was delivered in a naturalistic setting implying ecological validity of findings (i.e., the methods and setting of the study closely reflects the real-world phenomena that are being examined). Second, patients had thorough evaluations and had confirmed treatment resistant disorders prior to intervention. Third, the study included patients with comorbidity on Axis I and Axis II. Fourth, we used multiple outcome measures that allowed for multilevel modeling with individual growth curve analyses, increasing the reliability and validity of findings. Fifth, wait-list control data where patients received treatment as usual was used to strengthen the conclusion that effects are in fact attributable to the treatment rather than the passage of time. Finally, we calculated rates of clinically significant change, so that the clinical relevance of observed effects can be more clearly assessed.

5. Limitations

Limitations of this study warrant clarification. The study included a relatively small sample size; even though large enough to give sufficient power to reliably identify at least medium effects. Also, there was no randomization of patients to wait-list or treatment. Thus, coincidental improvements cannot be completely ruled out, although patients' previous limited treatment effects make chance less likely as the cause of reported gains. The fact that these patients had been suffering for many years and were unimproved after multiple treatments, makes it reasonable to assume that changes occurring during and after treatment are result of the specified intervention system rather than coincidence. The finding of no or negligible changes on the wait-list supports this notion.

The design of the study does not permit us to delineate the extent to which separate components of the treatment program were effective, nor their individual contributions to the overall outcome. Thus, we are unable to confirm how much of the benefits were derived directly from ISTDP therapy. Rather, it is the program as a whole and the synergy of all components that was tested. It is therefore impossible to discern the impact of the specific psychological interventions employed (e.g. individual ISTDP treatment, group psychotherapy, body awareness training, etc.), non-psychological interventions (physical exercise, optimization of medications, etc.), and non-specific factors such as general care and nurturance and contact time with treatment providers, etc. Caution is therefore warranted when discussing the specific importance ISTDP-components for treatment outcome.

Consequently, it is possible that the treatment program improved medication regimes or medication adherence and that this was a central contributor to positive outcomes. However, there was a reduction in the overall number of patients using psychotropic medications during the eight weeks of treatment from 75% to 51.7%, dropping further to 45.3% 14 months after treatment. Even though not conclusive evidence, this reduction

indicates that changes in the use of or increased adherence with medications were not responsible for the improvements attained. Future studies should examine the predictive effects of changes in medication use on treatment outcome within such comprehensive treatment systems as the one studied here.

The follow-up period is relatively brief. Even though 14 months is a fairly extensive follow-up when compared to most studies in the psychotherapy and psychiatry literature (Lambert, 2013), it is still far too short to really inform us about the truly long-term effects of treatment. Longer follow-up would also be of special interest in the study of treatment refractory disorders, since relapse rates presumably are higher here than would otherwise be expected.

There was no use of quantitative measures to verify the extent to which principles of various treatment modalities were adhered to. However, various procedures were utilized to ensure adherence and competence across different treatment components including video-recording based case review by the second author, regular supervision, and meetings between members of staff to discuss adherence and coordinate treatment across modalities.

Finally, since all patients receiving treatment as usual while on the wait-list were later included in the treatment program there is no way of demonstrating that patients could not have had similar long-term outcomes with treatment as usual on the wait-list alone. Likewise, there was no matching for contact time with treatment providers for patients on the wait-list and during treatment, making interpretation of differential outcomes more difficult.

Future studies in this domain should include larger samples and randomized assignment of patients with treatment resistant disorders to intensive residential treatment and treatment as usual in order to determine relative effectiveness. Furthermore, studies should compare the present treatment format with reputable and evidence based treatment models. Also, pitting intensive residential treatments against out-patient treatment that is specifically tailored to the needs of this population would be interesting. This would help clarify whether there is something particularly effective about the in-patient intensive treatment format, or if similar gains could be produced with less costly outpatient treatment modalities. Also, study designs that permit us to dismantle the effects of different components of treatment would be informative. This could be done in a dismantling study/randomized controlled trial in which the ISTDP components of the current program are removed from one arm of the study. This would provide potential for comparing effects of treatment components of the program, and may provide evidence for moderators and mediators of change.

A systematic multiple baseline design would be preferable for this population in order to ascertain the presence and nature of their treatment resistant disorders. Long-term follow-up up to 5 or 10 years after treatment would be optimal. Also, measures of cost-effectiveness would be useful, e.g., looking at such issues as disability, hospitalization, medication, and health care provider costs. Another useful direction for future studies may be to evaluate the effectiveness of intensive residential treatments for treatment resistant disorders using observer rated measures in addition to self-report. Likewise, observer based diagnostic data on both Axis I and Axis II of the DSM to identify specific diagnostic changes both regarding symptom disorders and personality based problems would be of interest. Finally, results may improve if treatments are delivered by more experienced therapists and as experience in delivering ISTDP in this format grows. Thus future studies might want to ensure that therapists are more experienced than was the case in the present study.

6. Conclusion

A treatment program based on principles from Intensive Short-term Dynamic Psychotherapy with an eight week time-limit appears to be effective in alleviating dysfunction, suffering and relational problems of severely suffering patients with a spectrum of common treatment resistant disorders. The treatment program quickly reduced target complaints, symptoms and interpersonal problems for patients who, based on their previous treatment experiences, were expected to fare poorly in treatment. Gains were consistently kept or improved further at follow-up. These results are promising in terms of providing hope for a group of patients who often do not profit from treatments for debilitating psychological problems.

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The present study received no external grants or funding and was financed as an integral part of day to day running at the hospital unit at which the treatments were given. Time for analyzing data and writing the article was allocated by the respective universities at which the authors are employed.

Conflict of interest

The authors acknowledge bias in favor of the Intensive Short-term Dynamic Psychotherapy treatment used in this article as they are practitioners and teachers of.

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