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Intensive Short-term Dynamic Psychotherapy for Pain

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Abstract

Intensive short-term dynamic psychotherapy (ISTDP) has been studied for a broad range of somatic symptom presentations including chronic pain. Drawn from two recent meta-analyses, data using ISTDP treatment for pain conditions was extracted and meta-analyzed. Ten studies, including 6 randomized controlled trials, were examined. Short- and medium-term results were available and ISTDP yielded large and persistent treatment effects for both pain and depression within group. In the short-term follow-up, large within group effects were seen for measures of anxiety, and medium within group effects were seen on measures of interpersonal problems. When ISTDP was compared to cognitive behavioral therapy methods (CBT) in randomized controlled trials, it yielded superior effects to CBT on pain and depression measures in both short- and medium-term follow-up. There was evidence of heterogeneity which was reduced by removing 2 outlying studies, yet the results remained significant and of moderate to large effects. Two studies suggested the method was cost effective by reducing healthcare costs, medication and disability costs. Based on these findings ISTDP should be considered for chronic pain treatment guidelines. Future research directions are discussed.

Introduction

Intensive short-term dynamic psychotherapy (ISTDP) is a brief individual psychotherapy method developed for people experiencing mental and physical health effects related to interrupted attachments and childhood trauma[1]. ISTDP and various Experiential Dynamic Therapy treatment methods derived from it have been well studied with approximately 50 randomized controlled trials, over 25 cost studies, and over 20 process studies[2]. It has been utilized for anxiety disorders, depression, somatic symptom disorders, personality disorders and as an adjunct for severe mental disorders[2]. It has been broadly studied in treatment refractory and complex patient populations including those with chronic pain[3]. It has also been studied and utilized clinically in medical settings including the emergency department[4], family medicine services[5], and neurology clinics[6-8].

When treating pain conditions, the ISTDP model focuses on the physical effects of unprocessed complex feelings that manifest as unconscious anxiety and lead to habitual avoidance or defenses against the awareness of these feelings. The unconscious anxiety can manifest as voluntary muscle tension (stiff muscles, pain, tremor, spasm), smooth muscle activation (bowel symptoms, bladder symptoms, changes in blood flow), and cognitive perceptual disruption (mental confusion, dissociative seizures, and disturbances of vision, hearing and sensation). These same

emotional processes can result in muscle weakness or paralysis[6,9]. Another mechanism of symptom formation is when the person has unresolved violent anger towards someone and manifests the same physical symptoms as the anger would do to the other person (e.g., head pain as a product of an urge to strike someone's head[9,10]). The treatment emphasizes the building of emotion/anxiety tolerance and removal of defences to enable processing of the underlying feelings[1,10,11], in order to overcome somatic symptoms and other conditions[12].

In this review we will examine the empirical research into ISTDP for chronic pain conditions.

Methods

Following two meta-analyses of short-term psychodynamic psychotherapy (STPP) published since 2020 (Abbass et al. 2020, 2021), we extracted and meta-analyzed where possible ($k \geq 3$ studies per cell) the outcome studies from these reviews of ISTDP for chronic pain conditions. We thus studied the effectiveness of this treatment on pain conditions and its efficacy compared to other formal treatments in the case of randomized controlled trials (RCTs). We also reviewed the available evidence for this treatment in terms of cost-effectiveness and effects on wider symptoms. For the statistical analysis we used Revman 5.2. (See Abbass et al. 2020[13], 2021[14] for detailed description of methods). Heterogeneity was defined as a I^2 statistic of greater than 50%.

When there was significant heterogeneity, we explored the effects of removing outliers in cases where there were more than 3 studies included.

Results

Ten studies are included in this review with a total of 682 patients. The conditions studied include mixed chronic pain (5), headache (1), fibromyalgia (1), back pain (1), pelvic pain/urethral syndrome (1), and jaw pain (1). Six of the studies were RCTs and 4 were before and after studies. The mean number of sessions provided was 13.2 (s.d. 5.6) and length of follow-up was 16.5 (s.d. 17.1) months. Six studies had adherence ratings and all but 2 used video case review (Table 1).

Of the 10 studies, 5 provided pre-versus-post short-term data on pain measures and 4 on pre-versus-post medium term data. Effect sizes were statistically significant and large in favour of ISTDP in all time frames and measures, except short-term effects for interpersonal problems were medium (Table 2). Heterogeneity was significant due to 2 outlying studies[16,17]. When these studies were removed, the heterogeneity was removed ($I^2 = 0\%$) and the effect size was reduced to medium ($d = 0.62$, [95% CI 0.82-0.42]) but remained significant. Removing two outlying studies[16,17], also removed heterogeneity ($I^2 < 50\%$) for both anxiety and depression measures leaving medium (d=0.71, 95% CI [.99-.44]) and large (d=0.81, [95% CI 1.45-.16]) effects sizes respectively.

Of the six RCTs, 3 provided short- and medium-term data comparing ISTDP and Cognitive Behavioral Therapy methods (CBT k = 2 and Mindfulness Based Stress Reduction (MBSR) k = 1) for pain symptoms. Effect sizes were large and significant in favour of ISTDP at short-term and large but marginally failed to reach significance in medium-term follow-up (Table 2). On measures of depression, ISTDP again resulted in large and greater effects than CBT methods with significant results at medium term follow-up but not at short-term follow up (Table 2).

There were an inadequate number of studies to meta-analyze outcomes on other measures, so a summary is provided here. Two studies[9,22] examined ISTDP cost effectiveness. In one large (n = 228), long-term, study of ISTDP for chronic pain, there was a cumulative reduction

Table 1: Description of ISTDP Pain Studies

1st Author, year [reference]	Patient Group	n	Sessions	Longest follow-up (Months)	RCT	Adherence rated	Video review
Abbass 2008 [9]	Headache	29	19.7	36	No	No	Yes
Baldoni 1995 [15]	Pelvic Pain Urethral syndrome	36	14	48	Yes	No	No
Chavooshi 2016 [16]	Chronic pain	23	20	3	Yes	Yes	Yes
Chavooshi 2017a [17]	Chronic pain	177	16	3	Yes	Yes	Yes
Chavooshi 2017b [18]	Chronic pain	42	13	12	Yes	Yes	Yes
Chirco 2015 [19]	Bruxism	5	20	12	Yes	No	Yes
Flibotte 2012 [20]	Fibromyalgia	67	7.2	Post	No	Yes	Yes
Hawkins 2004 [21]	Chronic back pain	47	8	12	No	No	No
Lilliengren 2020 [22]	Chronic Pain	228	6.1	36	No	Yes	Yes
Yarns 2020 [23]	Chronic pain	28	8	3	Yes	Yes	Yes

Table 2: Meta-analyses of Studies Examining the Effects of ISTDP for Pain

Comparison	# Studies	SMD [95% CI]	Significance
Pre to < 3 months Post ISTDP			
Pain	5	-2.83 [-4.83, -0.82]	0.006
Depression	5	-2.49 [-4.39, -0.58]	0.001
Anxiety	5	-1.42 [-2.18, -0.66]	0.0002
General symptoms	4	-1.71 [-3.27, -0.15]	0.03
Interpersonal problems	3	-0.66 [-0.88, -0.44] (a)	0.0009
Pre to 3-6 months Post ISTDP			
Pain	3	-2.86 [-4.61, -1.12]	0.001
Depression	4	-3.41 [-5.58, -1.24]	0.002
ISTDP versus CBT < 3 months Post Treatment			
Pain	3	-1.65 [-3.09, -0.20]	0.03
Depression	3	-0.98 [-2.06, 0.10]	0.08
ISTDP versus CBT 3-6 months Post Treatment			
Pain	3	-1.37 [-2.91, 0.18]	0.08
Depression	3	-1.03 [-1.77, -0.29]	0.006

Note: (a) $I^2 \leq 50\%$; Negative values of effect estimates favor ISTDP

in health system costs of over $14,000 (CAD) per patient after an average of 6 treatment sessions[22]. In the second study of chronic headache, 19.7 sessions of ISTDP resulted in a $2,200 (CAD) per patient cost reduction by 4 months follow-up through returns to work from disability and medication reductions[9]. Two studies measured quality of life: Yarns and colleagues[23], found non-significant but greater improvements in quality of life compared to CBT while Chavooshi[17] found moderate and large effect size greater gains in quality of life after ISTDP compared to CBT (MBSR) at post-treatment and follow-up respectively.

Discussion and Conclusions

This series of studies revealed evidence for benefits of ISTDP in pain conditions. On all symptom measures including pain, anxiety, depression and general symptoms, the within group effects were large. Although effects we reduced by removing 2 outlying studies, this finding across measures suggests a broad-based, significant effect with a short treatment course on chronic pain conditions. This is further reinforced by finding ISTDP had greater effects compared to another bona fide treatment model, Cognitive Behavioral Therapy, on pain measures in both the short- and medium-term.

The limits of this body of data include a lack of pain outcome measures in some studies and the presence of just six RCTs, only three of which allowed a comparison between formal treatment models. Related to this, although we explored heterogeneity by excluding two outlier studies, the small number of papers meant that we were unable to explore this issue any further by additional meta-regression, subgroup or sensitivity analysis[26]. Beyond this, most of the meta-analytic studies results were heterogenous as indicated by the I^2 statistic suggesting that there is variability in response between studies and conditions.

Future research should examine which populations may be higher or lower response groups to ISTDP versus other formal interventions. Future research should also consider which ingredients in ISTDP relate to treatment benefits such as emotional experiencing and processing[12].

Chronic pain conditions are notoriously difficult to treat, with meta-analyses suggesting existing treatments like CBT are inadequate, yielding small effects[24,25]. It is thus a welcome finding that ISTDP has a modest and growing empirical basis to support its clinical and cost-effectiveness in these conditions. Its effects appear to be greater than CBT for the treatment of chronic pain in a limited number of studies. ISTDP should thus be considered for inclusion in chronic pain treatment guidelines.

Conflict of Interest

The authors have no conflicts of interest regarding this paper.

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