Psychotherapy and Psychosomatics

Received: May 4, 2015
Accepted after revision: October 14, 2015
Published online: January 26, 2016

Psychother Psychosom 2016;85:123–125
DOI: 10.1159/000441698

Efficacy of Intensive Short-Term Dynamic Psychotherapy for Medically Unexplained Pain: A Pilot Three-Armed Randomized Controlled Trial Comparison with Mindfulness-Based Stress Reduction

Behzad Chavooshi, Parvaneh Mohammadkhani, Behrouz Dolatshahee

Department of Clinical Psychology, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

Medically unexplained pain (MUP) is known as a pain that lasts for 6 months, is sufficiently severe and causes significant distress that cannot be explained by a medical condition [1]. The widespread presence and side effects of MUP highlight the importance of developing effective psychological treatment guidelines for a treatment procedure. Preliminary research supports intensive short-term dynamic psychotherapy (ISTDP) as being an effective treatment for MUP [2]. However, there are currently no known controlled trials on this subject. The present study proposed a randomized controlled trial that aimed at understanding the efficacy and longevity of ISTDP in comparison to mindfulness-based stress reduction (MBSR) for MUP patients.

The ISTDP treatment consisted of twenty weekly, hour-long individual therapy sessions [3], and the MBSR was provided with eight weekly, 1.5-hour mindfulness-skills group training [4]. Patients in the treatment as usual (TAU) group did not receive any psychotherapy but continued to receive their typical treatments. Inclusion criteria were 18–50 years of age, at least one MUP with a duration of 6 months, a stable medication dose for at least 5 months, fluency in Farsi and provision of consent. The exclusion criteria were acute drug/alcohol abuse, psychotic or bipolar disorders, anorexia nervosa, acute suicidality and pregnancy.

The outcome variables included the Numerical Pain Rating Scale (NPRS) [5], the Depression Anxiety Stress Scale 21 (DASS-21) [6], the Emotion Regulation Questionnaire (ERQ) [7], the Mindful Attention Awareness Scale (MAAS) [8], and treatment acceptability and satisfaction [9]. The outcome variables were observed three times: at baseline, posttreatment and after 3 months. The characteristics of the patient groups were compared using the χ^2 or t test. Separate ANCOVAs were computed for the outcomes. The significance level was set at $p < 0.05$. Treatment response was defined as a patient having to fulfill the criterion for a reliable change index, and having a posttreatment score at least 2 SD below the group mean at baseline [10]. Effect sizes are presented as Cohen's *d*. In total, 95 patients were screened using an emotion-focused diagnostic assessment through an interview process focused on the assessment of emotional factors – a scaled down version of trial therapy [2, 3]. Finally, 63 patients were randomly allocated into the ISTDP (n = 23), MBSR (n = 20) or TAU (n = 20) groups.

The sociodemographic characteristics were as follows: 70% were males, the average age was 32.67 years (SD 6.97), 43% were single and 33% were fully employed. The majority of the patients were extremely depressed (92%; score ≥21 in the DASS-D) and highly anxious (98%; score ≥15 in the DASS-A). The main features of pain complaint included: tension headache (21%), noncardiac chest (17%), abdominal wall (14%), chronic lower back (13%), myofascial (11%), joint (8%), temporomandibular joint (5%), neck (5%), chronic pelvic (3%) and upper limb (3%) pain. The average reported duration of symptoms was 3.24 years (SD 0.96). The mean time since diagnosis was 1.51 years (SD 0.64) and the mean NPRS score at baseline was 8.16 (SD 0.97). There were no significant baseline differences in sociodemographic characteristics, disease-related parameters or in the number of dropouts between the three groups ($\chi^2 = 0.138$, $p = 0.29$). Both the treatment groups rated the credibility of their treatment as equally low ($p = 0.84$) and had a poor expectancy of change ($p = 0.57$) at baseline using the 'expectancy and credibility questionnaire'. Treatment credibility ratings, which indicate patients' initial beliefs about the success of a treatment, revealed no difference between the treatment groups ($p = 0.56$). Based on session videotapes, therapists did not differ in competence ($p = 0.18$), and all were rated as 'very good' to 'excellent'.

Within-group analysis shows that the pain intensity had significantly decreased in the ISTDP group at posttreatment [$t(39) = 15.683$, $p < 0.0001$] and at follow-up [$t(33) = 20.275$, $p < 0.0001$; table 1]. However, participants in the MBSR group reported pain reduction only at posttreatment [$t(35) = 7.287$, $p < 0.0001$; fig. 1]. In the NPRS, there was a large between-group effect size difference between the ISTDP and TAU groups at posttreatment ($d = -1.95$;

Table 1. Means ± SD and within-group effect sizes (Cohen's *d*) for primary and secondary outcome measures at baseline (BL), posttreatment (PT) and at the 3-month follow-up (FU)

		ISTDP					MBSR					TAU				
		mean ± SD			differences		Cohen's *d*	mean ± SD			differences		Cohen's *d*	mean ± SD			differences		Cohen's *d*
		BL (n = 23)	PT (n = 21)	FU (n = 21)	BL-PT	BL-FU		BL (n = 20)	PT (n = 19)	FU (n = 19)	BL-PT	BL-FU		BL (n = 20)	PT (n = 20)	FU (n = 20)	BL-PT	BL-FU	
NPRS		8.429±1	3.5±0.9	2.8±0.6	t(39) = 15.6 p < 0.0001	t(33) = 20.2 p < 0.0001	1.74	8±1	7.3±0.7	5.8±0.8	t(35) = 7.2 p < 0.0001	t(33) = 2.5 p = 0.016	0.87	7.9±0.7	8±0.7	8.1±0.5	t(36) = –0.8 p = 0.558	t(36) = –0.9 p = 0.358	0.11
DASS-21	DEP	15.7±2.6	6 ±1.9	6.7±1.4	t(37) = 13.4 p < 0.0001	t(31) = 13.6 p < 0.0001	1.08	16.6±1	11.8±2.5	11.5±2.8	t(30) = 6.6 p < 0.0001	t(32) = 6.5 p < 0.0001	0.75	17±1.8	16±2.1	15.8±2	t(37) = 1.5 p = 0.127	t(38) = 1.9 p = 0.061	0.10
	ANX	14.4±2.9	5.5±1.9	6.1±1.9	t(35) = 11.4 p < 0.0001	t(34) = 10.7 p < 0.0001	1.59	17±1.9	11.8±2.5	11.5±2.6	t(33) = 7.4 p < 0.0001	t(34) = 7.2 p < 0.0001	0.81	16.5±2.8	15.3±2.1	15.7±1.5	t(35)= 1.4 p = 0.155	t(30) = 1.03 p = 0.31	0.08
	STR	17.7±1.9	5.1±1.8	5.8±1.6	t(40) = 21.5 p < 0.0001	t(39) = 21.7 p < 0.0001	1.58	16±1.4	11.2±1.6	10.6±2.5	t(29) = 8.9 p < 0.0001	t (36) = 10.8 p < 0.0001	0.76	16.5±2	17.4±1.4	16.8±1.4	t(34) = –1.7 p = 0.094	t(34) = –0.6 p = 0.53	0.16
ERQ	REA	16.9±3.3	25±2.8	23±1.7	t(39) = –8.5 p < 0.0001	t(30) = –7.5 p < 0.0001	1.45	12.9±3	15.6±4.2	15.8±4.2	t(35) = –2.3 p = 0.026	t(35) = –2.1 p = 0.039	0.38	14.9±3	17±3.2	16.7±2.6	t(38)= –2.1 p = 0.037	t(37) = –1.9 p = 0.056	0.17
	SUP	15.7±4.1	7.6±2.4	7.9±1.6	t(32) = 7.7 p < 0.0001	t(27) = 8 p < 0.0001	1.88	14±4	14±1.8	15.1±2.6	t(31) = 4.1 p < 0.0001	t(25) = 3.8 p < 0.0001	0.74	15.5±2.4	16.3±1.9	15.1±1.1	t(36) = –1.1 p = 0.264	t(27) = 0.6 p = 0.52	0.09
MAAS		35.4±9.3	64.9±5.7	63.7±5	t(33) = –12.2 p < 0.0001	t(31) = –12.1 p < 0.0001	1.09	32±5	36.7±7	58.3±8.8	t(30) = –10.8 p < 0.0001	t(34) = –2.06 p = 0.047	1.54	32.3±7.6	32.7±8.4	25.5±9.1	t(38) = –0.1 p = 0.861	t(37) = 2.5 p = 0.015	0.12

DEP = Depres sion subscale; A NX = anxiet y subscale; ST R = stress subsc ale; REA = reappr aisal subsc ale; SUP = suppres sion subscale. Wit hin-group ef fect sizes ref lect diffe rences between BL a nd FU, calculate d by the mean di fference divide d by the SD at BL. Effect t size give n as Cohen's stand ards: small ef fects as *d* = 0.2–0.5, me dium effects a s *d* = 0.5–0.8 a nd large effect s as *d* >0.8.

Fig. 1. Outcomes on the Numerical Pain Rating Scale (NPRS) for the ISTDP group vs. MBSR group. ** p < 0.01; *** p < 0.001.

$F_{10, 29}$ = 192.31, p < 0.001) and follow-up (*d* = –1.7, $F_{10, 29}$ = 172.33, p < 0.001). There was a medium effect size between the MBSR and the TAU groups (*d* = –0.8; $F_{10, 29}$ = 124.12, p < 0.001) and (*d* = –0.67, $F_{10, 29}$ = 117.42, p < 0.001) at posttreatment and follow-up, respectively.

The difference between the two treatments was significant at posttreatment (*d* = –1.85, λ = 0.031, $F_{10, 29}$ = 198.45, p < 0.001) and follow-up (*d* = –1.4, λ = 0.022, $F_{10, 29}$ = 192.31, p < 0.001) in favor of ISTDP. Clinically, 87% of the ISTDP group and 5% of the MBSR group experienced functional recovery at posttreatment (χ^2 = 27.78, p < 0.001), and 38% of ISTDP patients experienced sustained recovery until follow-up (χ^2 = 42, p < 0.001). Compared with TAU, both treatment groups showed significant decreases in DASS-21 subscales (p < 0.001) and an increase in the MAAS and ERQ scores (p < 0.001). At posttreatment, patients in the ISTDP and MBSR groups reported moderate-to-high ratings of treatment acceptability (ISTDP: M = 3.95, SD 0.80; MBSR: M = 3.02, SD 0.50). Global satisfaction was also moderate-to-high (ISTDP: M = 3.68, SD 0.84; MBSR: M = 2.49, SD 0.61).

The present study has several limitations that restrict the validity and generalizability of the results. Primarily, the groups (ISTDP and MBSR) were not equivalent at follow-up since patients in the ISTDP group continued to receive psychotherapy after the posttreatment measure, while the MBSR patients did not. Thus, at follow-up, the MBSR group had received eight treatment sessions while the ISTDP group had received twenty. Secondly, the study has a relatively small sample that may overestimate the effect size. Lastly, the ISTDP was not conducted according to a 'well-structured' manual.

Despite these limitations, this study makes a unique contribution to the body of knowledge on effective treatments for MUP. To our knowledge, this is the first randomized, controlled, assessor-blinded clinical trial with three parallel arms to examine the efficacy of ISTDP versus MBSR. In addition, a TAU group was added to enhance the quantitative evaluation of treatment efficacy.

References

1 Rief W, Broadbent E: Explaining medically unexplained symptoms – models and mechanisms. Clin Psychol Rev 2007;27: 821–841.

2 Abbass A, Campbell S, Magee K, Tarzwell R: Intensive short-term dynamic psychotherapy to reduce rates of emergency department return visits for patients with medically unexplained symptoms: preliminary evidence from a pre-post intervention study. CJEM 2009; 11: 529–534.

3 Abbass A: Reaching Through Resistance: Advanced Psychotherapy Techniques. Kansas City, Seven Leaves Press, 2015.

4 Kabat-Zinn J: Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness. New York, Dell, 1990.

5 Farrar JT, Young JP, LaMoreaux L, Werth JL, Poole R: Clinical importance of changes in chronic pain intensity measured on an 11-point numerical pain rating scale. Pain 2001;94: 149–158.

6 Tran TD, Tran T, Fisher J: Validation of the depression anxiety stress scales DASS-21 as a screening instrument for depression and anxiety in a rural community-based cohort of northern Vietnamese women. BMC Psychiatry 2013; 13: 24.

7 Gross JJ, John OP: Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. J Pers Soc Psychol 2003; 85: 348–362.

8 Brown KW, Ryan RM: The benefits of being present: mindfulness and its role in psychological well-being. J Pers Soc Psychol 2003;84: 822–848.

9 Kelley ML, Heffer R, Gresham F, Elliot S: Development of a modified treatment evaluation inventory. J Psychopathol Behav Assess 1989;11: 235–247.

10 Jacobson NS, Truax P: Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. J Consult Clin Psychol 1991; 59: 12–19.