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Research report

An exploratory randomized controlled trial of body psychotherapy for patients with chronic depression

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ABSTRACT

Background: Chronic major depressive disorder and dysthymia are associated with a high burden and substantial care costs. New and more effective treatments are required. This is the first randomized controlled trial designed to evaluate the effectiveness of Body Psychotherapy (BPT) in patients with chronic depression.

Methods: Patients with chronic depressive syndromes (more than 2 years symptomatic) and a total score of ≥20 on the Hamilton Rating Scale for Depression (HAMD) were randomly allocated to either immediate BPT or a waiting group which received BPT 12 weeks later. BPT was manualized, delivered in small groups in 20 sessions over a 10 weeks period, and provided in addition to treatment as usual. In an intention to treat analysis, primary outcome were depressive symptoms at the end of treatment adjusted for baseline symptom levels. Secondary outcomes were self-esteem and subjective quality of life.

Results: Thirty-one patients were included and twenty-one received the intervention. At the end of treatment patients in the immediate BPT group had significantly lower depressive symptom scores than the waiting group (mean difference 8.7, 95% confidence interval 1.0–16.7). Secondary outcomes did not show statistically significant differences. When the scores of the waiting group before and after BPT (as offered after the waiting period) were also considered in the analysis, the differences with the initial waiting group remained significant.

Conclusions: The results suggest that BPT may be an effective treatment option for patients with chronic depression. Difficulty recruiting and subsequent attrition was one of the limitations, but the findings merit further trials with larger samples and process studies to identify the precise therapeutic mechanisms.

1. Introduction

Despite the wide availability of pharmacological and psychological treatments, major depressive disorder and dysthymia remain associated with a high burden. Data from the World Health Organization ranked unipolar major depression fourth among all medical conditions in leading to the loss of disability-adjusted life years (DALYs) with a projected increase to second by the year 2020 (Murray and Lopez, 1997; WHO, 2002). People with depression generate high costs to healthcare services (Nierenberg, 2001). Thomas and Morris (2003) reported that the total cost of depression among adults in the United Kingdom was estimated at over £9 billion.

About 20% of patients do not recover within 2 years (e.g. Scott, 2001) and at least 10% of patients have persistent or chronic depressive syndromes (Kessler et al., 2003) and a high proportion of patients with depression do not sufficiently respond to available treatments (Stimpson et al., 2002). Patients with persistent depression are therefore increasingly a focus of research (e.g. Scott et al., 2003; Schramm et al., 2011) and new therapeutic options are required to reduce the disability associated with depression, improve remission rates and quality of life.

Although considerable research has been conducted on the efficacy of psychotherapy for depression, alone and in addition to medication, relatively few studies have focused on chronic forms of depression. There is substantive empirical support for the use of cognitive therapy in the treatment of mild to moderately severe acute major depression (Scott, 2001). The effectiveness of psychotherapy amongst patients with severe depression has so far been insufficiently addressed in research. Cuipers et al. (2010a) conducted a meta-analysis on the effects of psychotherapy for

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chronic major depression and dysthymia; they concluded that psychotherapy (including cognitive-behavioural therapy, interpersonal psychotherapy and a mixture of other psychological and behavioural therapies) was generally effective in the treatment of chronic major depression and dysthymia, but was not as effective as pharmacotherapy. The authors emphasized the need for more high-quality studies in order to examine the specific components of psychotherapy that reduce symptoms in chronic depressive disorders.

Physical complaints and body related phenomena have been frequently reported in depressive disorders (e.g. Röhricht et al., 2002; Fuchs, 2005), and somatic symptoms are now regarded as "common presenting features throughout the world" (Bhugra and Mastrogianni, 2003). The link between depressive symptoms and body experience raises the question as to whether a body oriented psychological therapy might be effective in improving depressive symptoms.

Body psychotherapy (BPT) is an umbrella term for all psychotherapies "…that explicitly use body techniques to strengthen the developing dialogue between patient and psychotherapist about what is being experienced and perceived…In most schools of body psychotherapy, the body is considered a means of communication and exploration" (Heller, 2012, p. 1). BPT might impact on depressive symptoms in different ways: movement/exercises may address lack of drive, reduced initiative and psychomotor retardation; sensory awareness techniques – focusing on physical strength and capabilities – aim to improve patients' negative self-evaluation; other interventions focus upon the link between motor systems and emotion regulation as well as on disturbed emotional processing and affect regulation, addressing suppressed negative and aggressive impulses.

There have been positive case reports of Body Psychotherapy (BPT) in the treatment of depression (reviews Röhricht, 2000, 2009). Stewart et al. (2004) conducted a randomized experimental study on movement therapy in a sample of depressed inpatients and found that the therapy had a positive effect on mood. Following a pilot trial, Little et al. (2009) described positive changes in chronic depressive symptoms and well-being measures of patients treated with a "multimodal holistic body/mind group therapy approach". BPT has been found to improve negative symptoms of schizophrenia in a randomized controlled trial (Röhricht and Priebe, 2006), but so far there has been no randomized trial on the potential effects of BPT in chronic depression.

The aim of this exploratory randomized controlled trial was to test the effectiveness of BPT in the treatment of patients with chronic depression. BPT was manualized, delivered in groups and provided in addition to treatment as usual. It was compared with a waiting group that received treatment as usual only.

2. Method

2.1. Participants (eligibility criteria and sample size)

Patients were identified according to the following selection criteria: Current outpatients in secondary mental health services; aged 18–65 years; a DSM-IV diagnosis of non-bipolar, non-psychotic recurrent major depressive disorder with chronic depressive episode and/or chronic affective disorder (dysthymia); a total score of ≥20 on the 21-item Hamilton Rating Scale for Depression (HAMD; Hamilton, 1960); duration of the current episode of depression of >2 years (DSM-IV criteria for chronic disorder). Exclusion criteria were: psycho-organic disorder; substance misuse as primary diagnosis; insufficient command of English to fill in the scales and participate in the groups; acute suicidal ideation or psychotic symptoms.

2.2. Recruitment and randomization procedure

Patients were recruited by referrals from community mental health services and the trial was conducted between 2010 and 2012. The study was approved by the North East London Strategic Health Authority Ethics Committee (REC reference 10/H0701/12), and written informed consent was obtained from all patients before trial entry. Experienced psychiatrists, trained in the use of assessment instruments, conducted all screening, baseline and outcome assessments. They were kept blind towards the treatment allocation of the patients.

Patients were requested not to reveal any details of their treatment during post-treatment assessments up to the end of the follow-up interview, when qualitative data was collected.

All patients referred to the project were initially contacted by their clinicians. After referral to the study, patients were first subjected to a screening interview (to establish if selection criteria were met) and then further assessed (details below) within the same interview. Once a sufficient number of patients had been recruited to the study for two potential treatment groups, patients were randomly allocated to one of the two study arms, i.e. immediate BPT or waiting group. Randomization was done by an independent researcher using a random number. Those allocated to the waiting group received BPT treatment after a period of 12 weeks and following a second assessment.

2.3. Treatment

All participants in both study arms were offered group BPT (Röhricht, 2000), either immediately or after a 12 week waiting period, in addition to treatment as usual as provided by community psychiatric services. Treatment as usual consisted of ongoing antidepressant medication and out-patient clinical management. It was not substantially altered during the trial period; in particular there was no clinically relevant change of medication (change of drug within 4 weeks prior to entering the study and/or more than 30% dose increase) and/or other psychological treatments. The group size was limited to a maximum of eight patients, and BPT was provided with 20 sessions (according to stepped care pathway NICE guidelines for depression (CG90; National Institute for Health and Clinical Excellence, 2009) with 90 min per session over a period of 10 weeks.

The therapists providing treatment in the study were otherwise not involved in the patients' care. A part-time experienced dance movement therapist conducted BPT following a two-day manual training; this included the introduction of principles of the interventions, experiential learning in the form of a hands-on workshop in which therapists were introduced to the manualised treatment approach for these patients and a seminar on practical considerations in delivering this approach with supervised role play for the actual experience of delivering therapy sessions. The group therapy was supervised by a senior therapist in order to control for adherence to the given treatment manual (on the basis of written records and video tapes of each session) and to provide clinical supervision (after sessions 3, 8, 13 and 18 of the 20-session therapy course).

2.3.1. Description of treatment (body oriented psychological therapy in chronic depression)

BPT was administered as a manualized group therapy, specifically designed to address core symptoms of depression and with the following main components:

1. A range of exercises, movement strategies and sensory awareness procedures were used to address reduced self-awareness

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and psychomotor activity levels (lack of drive/initiative; psychomotor retardation).
2. The therapy included grounding techniques, non-verbal communication and interventions aiming to foster emotional expression (linking emotional awareness with motor expression); this was aiming to revitalize and mobilise (enacting) suppressed negative and aggressive impulses and direct them towards external targets/perceived threats and memories of experienced adversity (i.e. diverting auto-destructive/suicidal tendencies, which patients developed over time as a result of chronically held negative self-evaluations); through enhancing patients' affective modulation/motor expressiveness the therapy fostered inherent bodily resources/capabilities and healthy affective self-regulation.
3. A range of interventions was focusing on physical strength and capabilities, aiming at rebalancing patients' negative self-evaluation, strengthening self-demarcation, reducing somatic depersonalization.
4. The therapy integrated body oriented psychological work directed towards individual biographic backgrounds and with a specific focus towards the motor expression of unmet (physical and emotional) needs (e.g. "reaching-out" gestures), nourishment (e.g. interactive role play) and overcoming traumata (i.e. separation/loss); the latter involved scenic re-enactments, enabling patients to identify how self-destructive tendencies developed as diversion of feelings away from external targets, subsequently helping patients identify a range of more constructive responses and solutions.

BPT was delivered within a format of defined sections, with each session divided into four parts, in form of a repetitive standard structure.

(1) Check-in opening circle/diagnostic/exploratory phase; (2) body exploration and awareness; structured tasks of emotional stimulation in relation to bodily states, affect differentiation and regulation; (3) integrative and creative thematic body work in relation to generic themes and personal histories; exploring alternative behaviour/solutions; (4) warm down, closing circle and narrative development.

The manualized framework for the BPT-CD treatment identifies three distinct phases as a general orientation and a tentative guide for the intervention strategy.

The first phase of BPT (sessions 1–5): the therapist concentrates on the therapeutic relationship and on creating a safe contained therapeutic environment. The aim is to enhance the range and depth of the patient's experience and to shift self-awareness towards potential strengths and resilience. Exercises are introduced to widen the range of movements and strengthen awareness of the centre of the body (spine as main holding structure), and the breathing pattern.

The middle phase in therapy (sessions 6–12): in this phase, the emphasis is on enhancing the experience and range of emotions, helping patients to connect with and express emotions through role-play and scenic enactments; participants are guided towards experiencing aspects of their behavioural responses to the chronic nature of their depressive symptoms and expressing their psychological needs as they emerge in the context of group interactions. This aims to foster emotional processing for those patients who experience lack of emotional responses and are entrapped in cycles of negative cognitions and emotions, to develop a recognition of the whole (embodied) existence in the context of interpersonal interactions with both participants and therapist, and to foster self-respect and acceptance.

The final phase (sessions 13–18): the therapist facilitates a complex physical and cognitive re-evaluation of individual conflicts, experiences of deprivation and/or traumatic experiences. Patients begin to explore in more depth the range of expressive emotions in response to adversity, and the therapist will pay specific attention to creative/alternative coping strategies both through body oriented exercises and verbal interactions and reflections. Relationships are explored through exercises such as role plays, body sculpting (e.g. arranging body postures and gestures in a way that it resembles an image of a person stuck in conflict) and movement mirroring (e.g. working in pairs, observe patterns of non-verbal behaviour and mimic those). The last two sessions (19 and 20) aim to integrate the perceptive, emotional and cognitive aspects of the depressive disorder into a cohesive narrative; these sessions will furthermore identify (for each individual) which exercises the patient may want to continue after the end of BPT.

2.4. Sample size

In this exploratory trial we aimed to have a total sample of 30 patients for the exploratory analysis of the two conditions in the randomized design. The sample provided a total of four BPT groups (two each being offered BPT immediately and after a 12 week waiting period) to assess experiences with and outcomes of BPT.

2.5. Primary and secondary outcome assessments

The primary outcome measure was the level of depressive symptoms as assessed on the 21-item HAMD. Secondary outcomes were self reported self-esteem, subjective quality-of-life (SQOL).

Self-esteem was rated on the Rosenberg Self-Esteem Scale (Rosenberg, 1965). The scale ranges from 0 to 30. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem.

The Manchester Short Assessment of Quality of Life (MANSA; Priebe et al., 1999) was used to assess SQOL (providing a mean score of satisfaction ratings in 12 life domains, each ranging on a Likert scale of 1="could not be worse" to 7="could not be better"), computed into an average mean score across all 12 domains.

3. Statistical analysis

Analyses were conducted on an intention-to-treat basis. We compared outcomes in the immediate BPT group with those in the waiting group. In a subsequent analysis, we also considered pre- and post treatment depression scores in the waiting group when BPT was offered after the 12 weeks waiting period. We added those changes to the changes in the immediate treatment group, and compared changes of depression scores before and after BPT in this combined group with those in the initial waiting group. Treatment effects were tested in an analysis of covariance (ANCOVA), adjusting for pretreatment scores on the given outcome measure. Clinical recovery was defined as a HAMD-21 score of 8 or less post treatment, significant clinical improvement as a reduction of more than 25% and clinical response as a reduction of more than 50% between baseline and post-treatment.

4. Results

4.1. Recruitment and description of sample

A total of 61 patients were referred for inclusion in the study, 31 of whom fulfilled the inclusion criteria and consented with subsequent randomisation to the treatment or waiting group conditions. All patients had a diagnosis of chronic major depressive disorder at the point of entering the trial. In total, four groups

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of 7–8 patients ($N=31$) were randomised, and 21 of them received the allocated intervention ($N=10$ did not attend). The detailed flow diagram is shown in Fig. 1.

According to patients notes, past treatments for depression of participating patients included two to eight different antidepressants/ADs (mean 3.5; $N=14$ with 2 ADs, $N=6$ with 3 ADs, $N=5$ with 4 ADs and $N=6$ with 5 or more ADs) and one ($N=18$) to two ($N=8$; for five patients no information available) courses of psychological therapy (CBT and/or Psychodynamic Psychotherapy). Antidepressants including SSRIs: Citalopram, Escitalopram, Paroxetine, Fluoxetine, Sertraline); Tricyclics or related: Amitriptyline, Lofepramine, Trimipramine, Nortriptilyne, Doxepine, Trazodone; SNRIs: Duloxetine, Venlafaxine; and other antidepressants: Moclobemide, Mirtazepine; all prescribed at therapeutic dose levels.

The group of 16 patients randomized to the experimental treatment attended on average 7.5 therapy sessions, range 0–20 (the mean for those 12 patients who attended at least one session was 9.9); for the total sample of patients ($N=31$) this figure was 6.7, range 0–20 (9.5 for those 21 patients who attended at least one session).

Demographic and clinical characteristics of the sample are shown in Table 1.

The sample consisted mainly of unemployed middle-aged patients, and most had a long history of mental illness with a mean duration of illness of more than 16 years in the treatment group and more than 12 years in the control group. Both subjective SQOL scores and Self-Esteem scores were low at baseline. Prior to entering the study patients had completed on average 4 (range 2–7) treatment courses with different antidepressants and at adequate (therapeutic) dose levels as well as one or two courses of individual psychological therapy (cognitive behaviour therapy, psychodymanic therapy).

4.2. Outcomes

Patients in the immediate BPT and in the waiting condition did not show statistically significant differences in outcome measures at baseline; there was no baseline difference in depression scores between those who were lost to follow-up ($N=8$; HAMD total score 29.2, s.d. 5.9) and those included in the intention to treat analysis ($N=23$; HAMD total score 27.1, s.d. 5.7). Mean scores of the primary and the secondary outcome measures from baseline to follow-up are shown in Table 2.

Comparing the patients allocated to immediate BPT and those in the waiting condition, there was a statistically significant difference in the primary outcome. Patients receiving immediate BPT had much lower levels of depressive symptoms after treatment as compared to the waiting group. Whilst symptoms in the waiting group showed a slight increase, average symptom levels in the immediate BPT group improved by more than 7 points on the HAMD. The difference was equivalent to an effect size of about 1 and statistically significant. Within the sample of 19 patients post treatment, 2 patients fulfilled the criteria for recovery (HAMD-sum score $<=8$), 1 patient showed a reduction of more than 50% and 7 patients a reduction of 25–50% in their HAMD sum score between baseline and post-treatment. There was no statistically significant difference on any of the secondary outcomes, even though the self-esteem ratings improved at the end of the treatment (for six

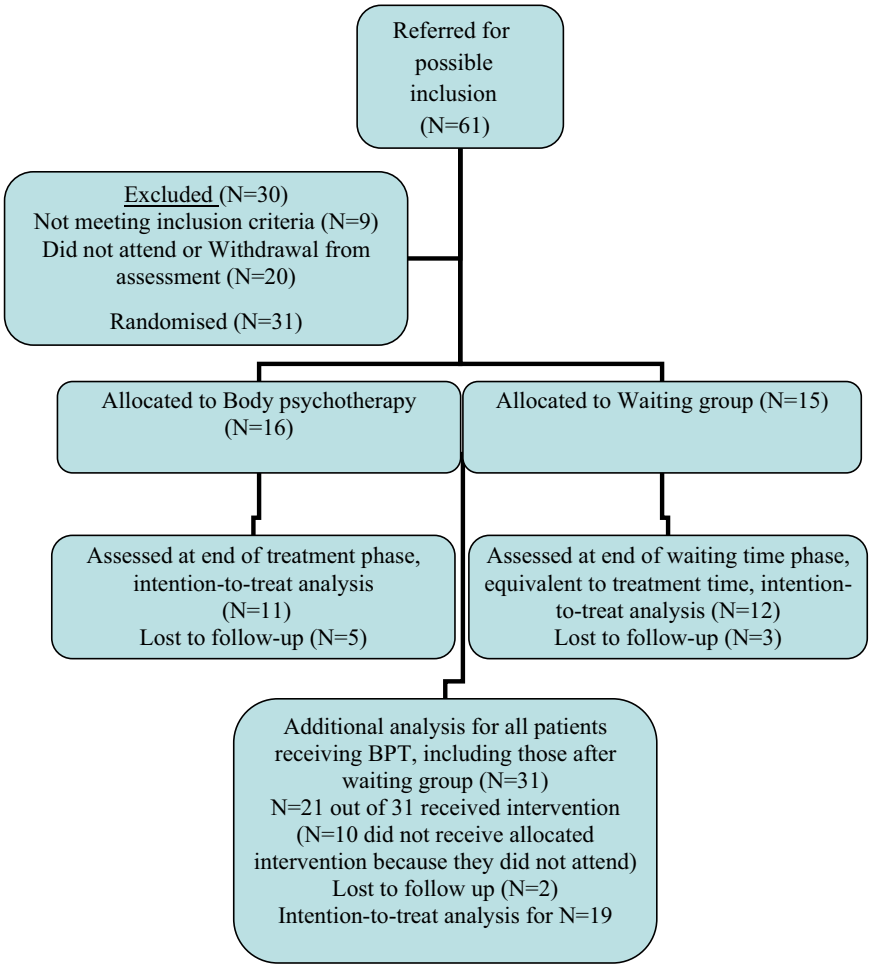

Fig. 1. Study flow diagram.

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patients at a level of clinical importance from low self esteem to ratings within the normal range).

In a subsequent analysis, we added the pre–post treatment changes in the waiting group when they received BPT after the 12 weeks waiting period to the immediate BPT group and compared the changes in this combined group with the changes in the waiting group during the initial waiting period. The results are shown in Table 3.

The findings are similar to the comparison of the immediate treatment group with the waiting group. After BPT patients show significantly more favourable changes of depression scores as compared to the initial waiting group, whilst there is no significant difference on secondary outcomes.

The number of attended sessions was negatively correlated with HAMD sum scores after therapy for (Pearson correlation coefficient $r=-.31$; $p=0.19$), i.e. the more the number of sessions attended the lower the level of depressive symptoms after treatment; comparing those patients who attended less than six sessions with those who attended more regularly there was a significant difference in HAMD sum-scores after treatment: mean 26.3, sd 2.5 ($N=7$) versus 18.9, sd 8.8 ($N=12$); t=2.2, $p<.05$.

Table 1
Demographic and clinical data on participants who entered the trial.

	BPT $N=16$	WG $N=15$	*t*-test Df=28/29
Gender f/m	6/10	7/8	
Age (mean/sd)	46.9/11.7	48.5/9.1	n.s.
Duration of illness, years (mean/sd)	16.3/11.3	12.1/9.2	n.s.
Number of previous hospitalisations (mean/sd)	1.3/1.5	0.4/0.6	$P=0.044$

BPT=Body oriented psychological therapy, WG=Waiting Group; n.s.=not significant.

5. Discussion

5.1. Overall findings

In this exploratory trial, we included patients with chronic depression and a substantial level of baseline symptoms. Patients offered immediate BPT showed significantly more favourable changes in their depression scores than the waiting group. Patients in the waiting group hardly changed at all during the waiting period which may reflect the chronic nature of their illness. Patients in the immediate BPT group experienced a significant reduction of their symptoms. On average, the difference between the two groups was 7 points on the HAMD, which reflects an effect size of about 1 and a clinically relevant improvement. When changes during BPT in the initial waiting group were additionally considered, the findings remained unaltered, and BPT was still shown as effective with a similar size of changes.

This positive result was achieved in an intention to treat analysis. Yet, only 21 out of 31 patients in the two groups actually attended at least one session of BPT. The more the number of sessions attended, the lower the level of depressive symptoms at the end of treatment, although this association failed to reach statistical significance in the small sample.

All these suggest that BPT may have a positive effect in this patient group on the primary outcome of depression. There were no effects on secondary outcomes. One may speculate as to whether BPT as delivered in this trial was so targeted on

Table 2
Clinical outcome measures for $N=30$ (ANCOVAs, adjusted for baseline score).

	BPT group			Waiting group			Difference (95% CI)
	n	Mean	s.d.	*N*	Mean	s.d.	
HAMD total score ($N=30$ only)							
- at baseline	16	28.2	6.3	15	27.2	5.4	−8.74 (−0.71 to −16.76)*
- post-treatment	11	20.9	8.9	12	29.5	9.1	
Rosenberg self esteem total							
- at baseline	16	7.5	4.5	14	10.1	6.1	2.1 (−2.39 to 6.63) n.s.
- post treatment	11	11.6	5.1	10	9.9	4.4	
MANSA total (mean across 12 domains)							
-at baseline	13	3.1	0.9	15	3.3	0.8	0.3 (−0.59 to 1.08) n.s.
-post-treatment	10	3.2	1.2	12	2.9	0.9	

* $=p<.05$, BPT=Body oriented psychological therapy, n.s.=not significant.

Table 3
Clinical outcome measures for $N=45$ (ANCOVAs, adjusted for baseline score, including waiting group patients who were also treated in BPT).

	BPT group			Waiting group			Difference (95% CI)
	n	Mean	s.d.	*N*	Mean	s.d.	
HAMD total score							
-at baseline	30	28.5	7.3	15	27.2	5.4	−7.90 (−14.49 to −1.30)*
-post-treatment	19	21.6	7.9	12	29.5	9.1	
Rosenberg self esteem total							
-at baseline	28	8.5	4.5	14	10.1	9.9	2.1 (−1.64 to 5.87) n.s.
-post treatment	19	12.1	4.8	10	6.1	4.4	
MANSA total (mean across 12 domains)							
-at baseline	27	3.2	1.0	15	3.3	0.7	0.29 (−0.45 to 1.02) n.s.
-post-treatment	15	3.0	1.0	12	2.9	0.9	

* $=p<.05$, BPT=Body oriented psychological therapy, n.s.=not significant.

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depressive symptoms that it did not impact on other outcomes or whether longer study periods are required to explore whether the improvement of depressive symptoms later translates into an increased self-esteem and better subjective quality of life.

5.2. Limitations

This was a small exploratory trial and larger studies are required to draw more reliable conclusions about the effectiveness of BPT in this patient group. Because of the small sample size we did not adjust for a potential cluster effect of patients being treated in the same groups.

Only about 50% of patients referred to the study consented to participate, and it remains unclear whether the other 50% objected to receiving BPT or participating in this type of research or both. Out of the 31 patients offered BPT, only 21 attended at least one session. This may reflect a generally low motivation and hopelessness amongst chronically depressed patients or more specific scepticism towards the unusual approach of BPT, despite the signing of a consent form. In any case, BPT as tested in this study is likely to appeal only to some patients with chronic depression and not to all. This limitation is not unique to BPT, and the intention of the study was to test an intervention that adds to the range of treatment option without necessarily finding a solution for all patients with chronic depression. Still, there may be a challenge to present and disseminate BPT in a way that more patients will actually take up the offer and attend sessions. Adherence to the treatment manual was supervised by the senior therapist but not assessed systematically.

Finally, the study was associated with the limitations of using a waiting group design, e.g. that being randomized to a waiting group and the expectation to receive treatment later may have influenced patient ratings of symptoms.

5.3. Comparison with other trials on chronic depressive symptoms

It has been suggested that patients with chronic depressive disorders require longer term psychological therapy (e.g. Cuijpers et al., 2010a; Schramm et al., 2011) to achieve optimal effects. In this exploratory trial we tested BPT with only 20 sessions to make it easier for patients to commit themselves to the treatment. The format also allows us to compare the effect with previous trials testing other forms of psychological treatments on chronic depression (most trials conducted so far applied manualized treatments with 10–20 sessions).

In a meta-analysis of 115 randomized controlled trials in adult patients with depression, Cuijpers et al. (2010b) identified only 11 high quality studies and found that the standard mean effect size of those studies ($d=0.22$) was significantly smaller than in the other studies ($d=0.74$, $p<0.001$). In another meta-analysis of 16 randomized trials examining the effects of psychotherapy on chronic depression and dysthymia, Cuipers et al. (2010a) found a small but significant effect ($d=0.31$) on depression when compared to control groups. The authors emphasized that the efficacy of different modalities of psychological therapy has been well established (therapies include cognitive-behaviour therapy, interpersonal psychotherapy, psychodynamic psychotherapy and problem solving therapy), but psychotherapy appeared less effective than pharmacotherapy. As compared to the findings summarized in these meta-analyses, the effect size of BPT reported here is substantial, although this should be interpreted with much caution given the small sample size of the exploratory trial.

Whilst this study did not address the question of specific therapeutic processes bringing about change, it might be speculated that the disorder specific body oriented intervention strategy enabled patients to address their chronically low mood and associated symptoms in a different way: McWhinney et al. (1997) emphasized that "The connexion between emotions and bodily states must be made at the affective and cognitive levels by the patients themselves…Physical therapies may also be effective in helping patients to make the breakthrough to a new level of understanding, without the requirements of verbalization" (p. 749). Even in a group setting BPT can consider individual biographic backgrounds and focus on unmet physical and emotional needs, nourishment and traumata (e.g. through separation and loss). Targeting the complex interaction between cognitive, affective and motor responses to adversity, patients may learn to recognize the impact of negative and self-destructive tendencies and find more constructive psychomotor responses.

6. Conclusions

The findings are encouraging. They suggest that BPT is a feasible treatment option for some of the patients with chronic depression who have not responded to any other available treatments, and that it may lead to significant improvements. Larger trials are now required to test the effectiveness of BPT in this patent group. These trials should not only have larger samples, but also include follow up assessments to explore to what extent the improvements are maintained over time and possibly lead to social gains. Trials should also include a cost analysis. Given that BPT was delivered as a group treatment of only 20 sessions, one may assume that it is particularly cost-effective as compared to individual therapies, but this needs to be established in systematic research.

Further research may also analyse processes in BPT to understand the therapeutic mechanisms so that the therapy can be further developed to reduce drop out rates and increase treatment effects.

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The study was conducted without external funding as own account research.

Conflict of interest

All authors declare that they have no conflicts of interest.

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