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ScienceDirect

Comprehensive Psychiatry 58 (2015) 50–56

COMPREHENSIVE PSYCHIATRY

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Dysfunctional cognitions of depressive inpatients and their relationship with treatment outcome

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Abstract

Background: Dysfunctional cognitions can contribute to depression and its maintenance. They may be related to a higher relapse rate and a longer duration of the depressive episode. The relevance of dysfunctional cognitions for acute inpatient treatment of unipolar depression is examined in this study and its variability by cognitive behavioural therapy (CBT).

Methods: 222 patients suffering from Major Depressive Disorder (MDD) were evaluated during their inpatient treatment by assessing admission and discharge depression scores and their relationship to dysfunctional cognitions, using the Dysfunctional Attitude Scale (DAS). The relationship between dysfunctional cognitions and treatment outcome was examined. Primary outcome measures were the Hamilton-Rating-Scale (HRSD) and the Beck Depression Inventory (BDI).

Results: Higher age, depression severity at admission, comorbid personality disorders and recurrent depressive disorders are related with higher DAS-scores at admission. DAS-Scores declined during treatment but to a lower extend than depressive symptom scales (effect size $d_{DAS\text{-}G\ t1\text{-}t2} = .31$; $d_{HRSD\ t1\text{-}t2} = 2.88$; $d_{BDI\ t1\text{-}t2} = 1.38$). Higher DAS-scores at admission correlated negatively with the improvement of depressive symptoms during treatment (HRSD: $r = -.62$; $p < .01$; BDI: $r = -.54$; $p < .01$) and remission rates (HRSD: $r = -.65$; $p < .01$; BDI: $r = -.48$; $p < .01$). CBT did not additionally reduce DAS-scores compared to pharmacotherapy only.

Conclusion: Dysfunctional cognitions are relatively stable compared to other depressive symptoms and are associated with poorer treatment outcome even in combined treatment of antidepressant medication and CBT during inpatient treatment. Changes of dysfunctional cognitions seem to be a long-term treatment goal, especially because of their association with comorbid personality disorders and recurrent depressive disorders.

1. Introduction

With a lifetime prevalence of 15% Major depressive disorder (MDD) is one of the most frequent mental disorders [1]. It causes loss of life-quality, disability and is related to early death. According to Lopez et al. depression will be at third place of costs for the health care system in the next decade [2].

One important factor compromising MDD are dysfunctional attitudes. They represent extreme and relatively rigid beliefs that bias thinking, emotional reactions and behaviour [3]. In Beck's cognitive model of depression, patients with depression have dysfunctional cognitive schemata that influence information processing in a negative way [4]. These maladaptive schemata, often in combination with negative live events, can contribute to MDD and its maintenance [5,6]. Negative cognitions might be primed or activated by stress or a dysphoric mood state. The relationship of depressive thinking and sad mood has been described as cognitive reactivity (CR) [7]. The concept of CR suggests that negative cognitive factors emerge during stressful situations, and that CR is critical for the onset, relapse, and recurrence of depression. CR is significantly associated with depression incidence [5]. Furthermore CR and explicit self-depressive associations have been demonstrated

All authors contributed to and have approved the final manuscript.

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http://dx.doi.org/10.1016/j.comppsych.2014.12.020
0010-440X/

as independently associated with changes in depressive symptoms [8]. High CR additionally increases the risk of depressive relapse, independent from prior treatment [9]. One major factor that contributes to the maintenance of depression is the long lasting and trait-like character of dysfunctional beliefs [10]. Focussing on inpatient treatment there is some evidence that higher levels of depressive cognitions may be associated with the presence of more severe psychotic symptoms, a poorer psychosocial functioning and suicidality [11].

Although dysfunctional attitudes are a risk factor for MDD and have major impact on treatment outcome of depression, they are in principle changeable. Therefore, to alter dysfunctional beliefs is a major goal of cognitive behavioural therapy (CBT). CBT has been proven in several RCTs to be effective in treatment in depression [12]. Also the combination of psychotherapy in general [13] and specifically CBT [14] and pharmacotherapy seems to be beneficial in treatment of depression. In a review, Garratt et al. (2007) concluded that cognitive therapy predicts positive changes of dysfunctional cognitions and clinical improvement. However there is still uncertainty regarding the specificity of change due to cognitive therapy [15] as for example also pharmacotherapy reduces dysfunctional cognitions [16]. In another study investigating cognitive changes in group CBT for depression for example, reduced dysfunctional attitudes and negative automatic thoughts could be found after treatment, however reduced depressive symptom contributed to reduced depressogenic automatic thoughts and dysfunctional attitudes, not the reverse [17].

Summing up, high pre-treatment levels of dysfunctional cognitions seem to be a negative prognostic factor for treatment response. Dysfunctional cognitions may also be a relevant factor for treatment outcome during inpatient treatment. We hypothesise that dysfunctional cognitions are related to more severe depressive symptoms and a poorer treatment outcome in inpatients with MDD. Inpatient treatment offers a higher intensity of treatment. We want to investigate if dysfunctional cognitions change during inpatient treatment and to what extent. We hypothesise that dysfunctional cognitions also decrease during inpatient treatment even in a sample with severe MDD. In our third hypothesis we expect that patients with additional CBT will demonstrate a higher reduction of depressive symptoms and dysfunctional cognition compared to patients with pharmacotherapy only during inpatient treatment. This is highly relevant due to the question of the necessity of combined treatment even during inpatient treatment.

2. Methods

2.1. Participants

Patients were recruited from the psychiatric unit of the 'Theodor-Wenzel-Werk' clinics in Berlin, Germany. Patients were included if they had (1) a major depressive episode or recurrent depression as the principal current diagnosis according to ICD-10 (2), an age ≥ 18 years and (3) a score ≥ 15 on the 17-item version of the Hamilton Rating Scale for Depression (HRSD; [18]) and/or a score ≥ 18 on the Beck Depression Inventory (BDI; [19]) at admission, indicating a clinically relevant severity of depression in an expert- and/or a self-rating scale [20]. The study has been conducted in accordance with the current version of the Declaration of Helsinki and was approved by the local Ethics Committee. Participants were excluded from the study if they had (1) a previous history of schizophrenia, schizoaffective disorder or bipolar I disorder, (2) an acute withdrawal syndrome induced by the use of psychoactive substances or (3) language as well as concentration- and thinking deficits to an extent that they could not complete the questionnaires (Table 1).

2.2. Treatment

Treatment was a multidisciplinary inpatient treatment. All patients were treated with psychopharmacological medication and clinical management according to the German national clinical practice guideline for unipolar depression [21]. The antidepressants prescribed during the inpatient treatment are displayed in Table 2. If indicated, patients took part in occupational therapy (92%), sports therapy (83%), cognitive–behavioural therapy for depression in single and group setting (in total 68% of all patients, 43% in single setting, 63% in group setting; "additional psychotherapy" in the following, CBT according to [22]), motion therapy (41%), music therapy (25%), cognitive–behavioural group therapy for anxiety disorders (19%), progressive muscle relaxation training (20%), addiction therapy (8%), art therapy (5%) and light therapy (2%).

Table 1
Baseline characteristics of the 222 depressive patients included in the analysis.

Characteristic	AD patients
Age (years) [a]	51.9 (13.1)
Days of hospitalisation [a]	59.1 (28.4)
$HRSD_{17}$ admission [a]	28.8 (7.6)
BDI admission [a]	27.8 (10.05)
DAS-G[a]	141 (3.7)
DAS-A[a]	55.5 (20.6)
DAS-D[a]	33.01 (7.7)
CGI admission [a]	5.35 (.62)
GAF admission [a]	47.7 (10.4)
Gender: female [b]	60.4 (134)
Martial status: not married [b]	54.1 (120)
Educational status: university degree [b]	52.3 (116)
Recurrent depressive disorder [b]	37.8 (84)
Comorbid axis I disorder [b]	36.9 (82)
Comorbid personality disorder [b]	37.8 (84)
Inpatient CBT[b]	67.6 (150)

Abbreviations: $HRSD_{17}$: 17-item version of the Hamilton Rating Scale for Depression BDI: Beck Depression Inventory, DAS-G: Dysfunctional attitude scale, total score. DAS-A: Dysfunctional attitudes concerning efficiency rating. DAS-D: Dysfunctional attitudes of approval by others. CGI: Clinical Global Impression Scale, GAF: Global Assessment of Functioning Scale. CBT: Cognitive–behavioural therapy.

[a] Values shown as mean (SD).

[b] Values shown as percentage (n).