MENTALIZATION-BASED GROUP THERAPY FOR INPATIENTS WITH BORDERLINE PERSONALITY DISORDER: PRELIMINARY FINDINGS

Martin Brüne, Giancarlo Dimaggio, and Marc-Andreas Edel

Abstract

Objective: Dialectic-behavioural therapy (DBT) has emerged as key to improve emotion regulation abilities and to reduce suicidal ideation in patients with Borderline Personality Disorder (BPD). However, research also suggests that patients with BPD have difficulties in appreciating the mental states of others ("mentalization"), and that compromised mentalizing skills contribute to the patients' deficits in maintaining social relationships, yet do not respond well to DBT. Accordingly, the present study sought to examine whether or not mentalization-based therapy (MBT) adjunct to DBT could improve mentalizing skills in BPD.

Method: So far, fifteen female patients diagnosed with BPD according to DSM-IV criteria participated in a 4-week MBT group therapy, in addition to DBT.

Results: Preliminary findings suggest that patients' motivation and adherence to MBT was excellent; patients experienced MBT as supportive, and the severity of borderline symptoms declined significantly. Moreover, choices made in a novel cartoon-based mentalizing task changed from avoidant to more prosocial answers, although this was not significant, probably due to the low statistical power.

Conclusions: MBT may serve as a meaningful addition to DBT. Whether the observed effects are specific to MBT needs to take into account a DBT comparison group that does not receive MBT.

Key words: borderline personality disorder, attachment, mentalization, mentalization-based therapy

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Introduction

Interpersonal theories on Borderline Personality Disorder (BPD) suggest that patients have impaired access to the mind of the others, depending on patients' emotional state and activation of the attachment system (Fonagy 1991). Under heightened arousal, triggered, for example, by the fear of being abandoned or rejected by a significant other, people with BPD act on their "inner working models" (Bowlby 1969) acquired during early childhood that are often biased towards the expectation that others are untrustworthy, unreliable and emotionally unavailable. Normally, a child experiencing coherent attachment relationships with its primary caregivers develops a stable mental picture of the self with the ability to reflect about itself and others. In BPD, by contrast, it is often the experience of traumatic or even abusive early relationships, which lead to an impaired reflective competence (Fonagy et al. 1998, Fonagy et al. 2000, Liotti, 2002). In this context, Fonagy et al. (1998) have argued that in BPD the access to the mentalization "system" is blocked to avoid overwhelming pain, which might be caused by the awareness that a person that ought to provide care and safety is, instead, a source of threat and abuse. Consequently, patients with BPD, often have difficulties in forming a realistic picture of what another person is thinking or feeling, and of the motives underlying the other's actions (Choi-Kain and Gunderson 2008). The idea that problems in mentalizing in BPD solely occur when the attachment system is activated has been criticized for several reasons, because appraisal of others' mental states may also be compromised when interpersonal motives other than attachment are active, particularly those associated with antagonism or social rank (Dimaggio et al. 2007, Liotti and Gilbert 2011).

Empirical studies seem to support the view that patients with BPD have difficulties in intuiting what another person is feeling on the basis of one's facial expression or prosody (Domes et al. 2008, Minzenberg

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et al. 2006), which, in part, seems to be associated with symptom severity (Peter et al. 2013). Moreover, patients with BPD sometimes lack a proper understanding that others have different needs than oneself (Fonagy and Target 1996), that one is not necessarily the centre of another person's thoughts and feelings, and that one's own opinions about others are not necessarily true (Dimaggio et al. 2009, Semerari et al. 2007). Taken together, all this contributes to the difficulties in forming a coherent and integrated picture of others (Bateman and Fonagy 2004, Davidson et al. 2007, Semerari et al. 2007, Liotti 2002, Fonagy et al. 2000), that is, poor mentalizing or "reflective functioning".

Clinical experience suggests, however, that BPD patients sometimes have a seventh sense for the mood states of others (Searles 1979), which is consistent with findings that they are often better at inferring the emotional states of others, while failing to appreciate others' cognitive mental states, compared to controls (Harari et al. 2010). In group therapy settings, for example, BPD patients can quickly recognize situations that are potentially threatening the self. Such "hypermentalizing" may appear as inadequate, mistrustful or even akin to paranoid ideation, similar to what Fonagy et al. (2000) have called "hyperreflective functioning".

Interestingly, one study reported that metacognitive skills (a term that broadly overlaps with the concept of mentalizing) declined in patients with BPD after psychotherapeutic intervention, which the authors interpreted as momentary blockade of mentalizing skills due to an activation of the attachment system, triggered by the therapist's empathic concern (Prunetti et al. 2008).

This sheds light on differences in improvement of mentalizing skills, depending of which psychotherapeutic "school" or type of intervention is used. Current guidelines recommend four evidence-based approaches that have proven effective. The most widely used is Dialectic Behavioral Therapy (DBT; Linehan et al. 1991), which, similar to schema-focused therapy (SFT; Young 1990), makes use of cognitive behavioural techniques. In contrast, Transference-focused Psychotherapy (TFP; Clarkin et al. 2000) and Mentalization-based Therapy (MBT; Bateman and Fonagy 2004) are rooted in psychodynamic psychotherapies. DBT is probably the approach that has been evaluated best. It includes elements from Zen Buddhism such as mindfulness and acceptance, as well as cognitive behavioural aspects, foremost stimulus control, contingency management and commitment. DBT also borrows from gestalt- and hypnotherapeutic techniques (Bohus and Kröger 2011). Both DBT and SFT do, however, not explicitly target mentalizing skills, which is more the domain of the psychodynamic approaches. In fact, Levy et al. (2006) found, in a randomized controlled trial in which patients with BPD were assigned to DBT, TFP or a psychodynamic supportive psychotherapy, that reflective functioning improved only in the TFP group, but not the other two interventions.

This suggests that, ideally, the widely used behavioural techniques such as DBT could benefit from an approach that, in addition, targets mentalizing skills in BPD more specifically. MBT, a relatively novel tool developed by Bateman and Fonagy (2004) heavily relies on attachment theory, including ideas suggesting that early experiences shape the quality of interpersonal relationships throughout the lifespan. In light of the widespread attachment problems in BPD, it therefore seems to be essential for MBT to establish a therapeutic setting in which the patient feels safe and accepted, which in turn allows the patient to improve adequate mentalization, reduce inadequate hyper-mentalizing and integrate their own and others mental states in a coherent picture. MBT, more than TFP, incorporates active encouragement to mentalize, yet is less interpretive and more cautious with regard to the patient-therapist-relationship. MBT focuses on four distinct pathological mechanisms or "modes", which reflect different developmental stages of mentalization skills. The most "primitive", referred to as "pretend" mode is characterized by a decoupling of inner and outer reality. Clinically, this may be reflected by ruminating thoughts or self-derogation without any link to reality. "Mind-world isomorphism" is somehow the opposite mode, that is, inner and outer reality is perceived as identical. This can manifest in the form of flashbacks and other unwanted or painful memories that are experienced as "real". A third mode is referred to as "teleological", whereby inner states are enacted. For example, a patient who experienced emotional pain may cut herself, or sexual activity may be seen as an equivalent to love and emotional closeness. Finally, the re-externalisation of a self-destructive alien self may manifest in the form of "projective identification" as a mode to stabilize a fragile self (Fonagy and Bateman 2007).

A more mature mode of reflective functioning refers to the ability to distinguish between inner and outer reality as well as own and others' mental states, such that mentalization may work even in emotion-laden situations.

So, there seems to be a rationale to combine DBT with MBT, especially in clinical settings that are characterised by constraints of resources and time. That is, although DBT has proven effective with regard to a reduction of emotional instability, self-injurious behaviour and other problem behaviours (Kliem et al. 2010), and addresses, in part, interpersonal skills (Bohus and Wolf 2009), it does not explicitly focus on providing patients with skills that enable them to get a deeper understanding of the causal mechanisms involved in social interaction that may contribute to unstable relationships, that is, reflective functioning and mentalization. As Bateman and Fonagy (2006) have pointed out, DBT improves emotional stability and social skills less than self-injury and suicidal behaviour, which is where MBT may kick in. In fact, two randomized trials have shown that MBT has the potential to improve social skills and emotional stability, yet the greatest effect may be observed only after at least 12 months of MBT (Bateman and Fonagy 1999, Bateman and Fonagy 2009).

We therefore chose an explorative approach that combined DBT elements with MBT in a group setting over a six-week in-patient treatment for BPD. Our main initial goals were to study whether or not patients appreciate and value the combination of DBT with MBT.

We also aimed to measure whether this new combination of DBT and MBT was able to promote what it was meant to promote, that is mentalizing capacities. In order to do so we used a novel "offline" cartoon-based task, more complex than previous offline tasks used in this population (Ghiassi et al. 2010), dealing with emotionally arousing material in order to elicit problematic contexts which are supposed to underlie the mentalizing difficulties of people with BPD.

We expected that the MBT programme was well received by patients with a relatively low drop-out rate, and potentially, some changes in mentalizing as regards the predicted outcome of the cartoon stories (for a detailed description, see below).

Material and methods

Participants

Sixteen in-patients, diagnosed with Borderline Personality Disorder as confirmed by a Structured Clinical Interview (SCID, German version, Fydrich et al. 1997), were enrolled in the study. All patients gave full informed consent in writing. The study was approved by the Ethics Committee of the Medical Faculty of the Ruhr-University.

The patients' mean age was 27.2 years (SD = 9.5; range 18 – 48 years). All patients had a comorbid affective disorder (two had bipolar-II disorder, four a depressive episode, and 10 patients suffered from a recurrent depressive disorder, current depressive episode). Accordingly, all but two patients received antidepressants (selective serotonin reuptake inhibitors or a melatonergic substance).

Patients with comorbid substance abuse, psychotic disorder, bipolar-I disorder or psychotic depression were excluded.

Initially, all patients participated in a two-stage DBT programme, whereby in the first two-week stage the therapeutic focus was on commitment and psycho-education. In the second four-week stage, patients participated in a skills training twice weekly, and two therapeutic groups per week focusing on mindful attention. In addition, patients had at least one individual session of psychotherapy per week, and participated in occupational therapy as well as physical exercise.

The MBT group therapy was peformed adjunct to the second DBT phase over four weeks twice weekly. The first four modules comprised psychoeducation, the other four psychotherapy in the strict sense (Edel and Brüne, unpubl.).

MBT

The psychoeducational part of the MBT group therapy contains information about what mentalization is, about the relationship of attachment with mentalization with special emphasis on potential problems in BPD, and about the prerequisites of more appropriate mentalizing. Psychoeducational modules are supported by the presentation of slides containing pictorial material and short video vignettes that help illustrate the material, without engaging the patient too much in actual mentalization, as to ensure the establishment of a safe and secure setting that patients can control and handle. In the psychotherapeutic modules, patients get the opportunity to experiment with their mentalizing skills, present "real" social interactions in which they experienced difficulties in mentalizing or in regulating their emotions, and are encouraged to "probe" their learned mentalizing skills.

Neuropsychological assessment

Symptom severity

The severity of the symptomatology was assessed using the Borderline-Symptom-List (BSL-23). The BSL-23 is explicitly designed to capture changes in symptom severity over the course of psychotherapy. It comprises three sub-scales, (1) general symptom severity, (2) severity of self-injurious behaviour, and (3) a visual analogue scale for subjective well-being during the past week (Bohus et al. 2009).

Mentalizing skills

Patients' mentalizing skills were examined before and after MBT using a novel tool developed by Dimaggio and Brüne (unpublished material). The mentalizing task consists of eight cartoons, four of which were randomly picked for the examination pre-MBT, and the remaining four for post-testing.

The cartoons comprise scenarios of social interactions of two or more characters. The stories were developed around a broad range of human motivations, such as attachment, social rank, social threat, group inclusion, affiliation and cooperation. Each cartoon consists of seven pictures, presented in jumbled order, which patients are asked to bring into a logic sequence of events. An eighth card describes a possible ending of the story. Here, participants are asked to pick one of four possible endings, whereby one is a "prosocial" ending (e.g., a cartoon character is comforted by another), an "antisocial" ending (e.g., a character is socially excluded), an "avoidant" ending (e.g., a character leaves the scene without resolving an interpersonal issue), and a "disorganised" ending (e.g., a character showing nonsensical behaviour). As an example, one such cartoon shows a scenario, where a young woman is waiting for her boyfriend, sitting on a bench with a beautiful present for him (picture 1). Upon his arrival, she is giving her present to him, while he is scratching his head (picture 2). meeting her partner in a park. It is shown (in picture 3) that his pockets are empty. Both are sitting on the bench with a sad expression, holding hands, while a tarted-up young woman appears in front of them (picture 4). The woman's lover is entering the scene, running towards her (picture 5). He is handing over a box with a present for the lady, which the two others are observing from their bench (picture 6). The tarted-up lady is discovering a wonderful diamond ring putting it on, visibly for all characters (picture 7). The "prosocial" ending now shows the young woman on the bench comforting her weeping boyfriend. The "antisocial" ending depicts the boyfriend of the first young woman trying to steal the diamond ring from the tarted-up lady. The "avoidant" ending shows the first woman smashing her present towards her boyfriend's head. The "disorganised" ending depicts the boyfriend climbing on a tree next to the bench. The cartoons thus assess both affective and cognitive aspects of mentalizing, because empathetic perspective-taking is involved with regard to the emotional states as well as the cartoon characters' thoughts, desires and intentions.

Statistics

The data were analysed using SPSS, version 21 for Macintosh. Pre-post-comparisons were calculated using paired t-tests.

Results

Feasibility

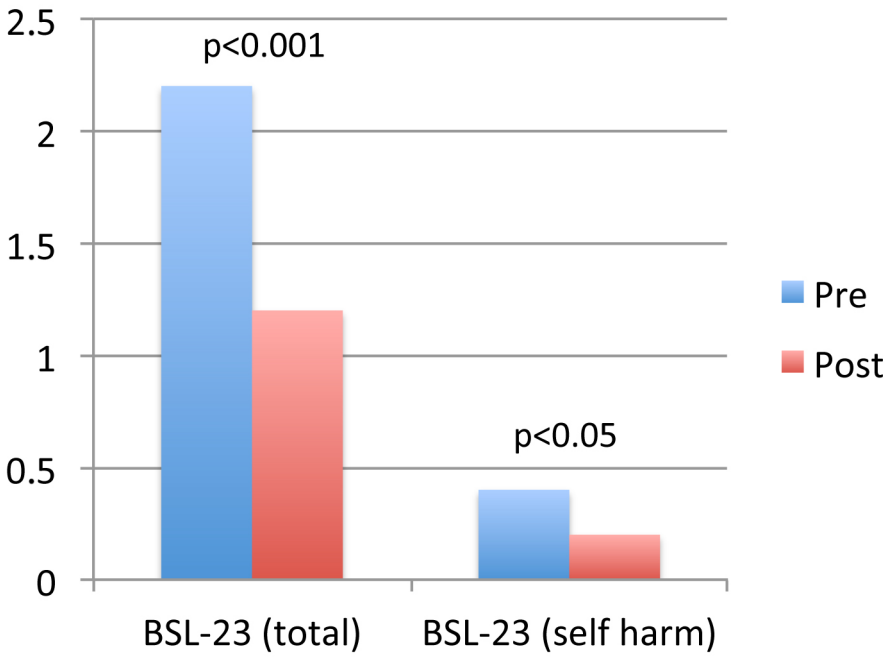
Overall, MBT adjunct to DBT was well received by the patients. The drop-out rate was extremely low (N = 1).

Symptom severity

Pre-post comparison revealed a significant reduction in symptom severity (baseline BSL score 2.2

[PR=53; SD=1.0], after MBT 1.2 [PR=22; SD=0.9]; t=5.6; p<0.001) and in self-injurious behaviour in the preceding week (initial score 0.4 [SD=0.4], after MBT 0.2 [SD=0.3]; t=2.8; p<0.05; Figure 1). Subjective well-being improved from 32.3 SD=17.8] to 50.5 [SD=20.8]; t=-3.4; p<0.01).

Figure 1. *Differences in BSL scores before and after the intervention*



Mentalizing skills

Pre-post comparison did not reveal any differences in cartoon sequencing (pre-MBT score: 22.2 [SD = 5.5]; post-MBT score 21.8 [SD = 6.0]). Nor did the sequencing time change significantly (pre-MBT: 113.5 seconds [SD = 84.7]; post-MBT: 99.7 seconds SD = 70.2]).

Interestingly, there was a marked, though statistically non-significant increase in choices of prosocial endings (pre-MBT: 0.6 [SD = 0.7]; post-MBT: 1.2 [SD = 0.8]) and a reduction in choices of avoidant endings (pre-MBT: 2.0 [SD = 1.1]; post-MBT: 1.1 [SD = 0.6]). In addition, there was a mild increase in antisocial choices (pre-MBT: 1.3 [SD = 1.1]; post-MBT: 1.6 SD = 0.9]), whereas the number of disorganised choices was negligible at both time points.

Discussion

Borderline Personality Disorder (BPD) is a severe psychopathological condition that is characterised by marked interpersonal dysfunction. Research into the underlying maladaptive cognitive mechanisms suggests that patients with BPD have problems in appreciating other people's mental states such as desires, beliefs, feelings and intentions (Domes et al. 2008, Minzenberg et al. 2006, Harari et al. 2010, Ghiassi et al. 2010, Peter et al. 2013), while at the same time being sometimes over-sensitive to negative emotional stimuli such as fear or anger (Wagner and Linehan 1999, Lynch et al. 2006).

Previous research into psychotherapy for BPD suggests that not all treatment regimes that are recommended for BPD address mentalizing deficits equally detailed. In fact, evidence suggests that the psychodynamic approaches seem more suitable in that regard (Levy et al. 2006). However, this is not to derogate the usefulness of DBT as therapeutic approach to improve emotion regulation and reduce suicidality in patients with DBT. Yet, it might be useful to focus on mentalizing in greater depth by introducing MBT adjunct to DBT, at least in an in-patient setting where constraints are high with regard to duration of treatment. Such a combined approach could thus provide a more comprehensive treatment that takes into account the multi-faceted clinical picture of BPD, including deficits in reflective functioning or mentalizing (Bateman and Fonagy 2006, Allen and Fonagy 2009). In fact, attachment theory proposes that traumatic experiences during early childhood predispose to the development of "mistrustful inner working models" (Bowlby 1969), such that others are perceived as unreliable, rejecting and untrustworthy (Bateman and Fonagy 2004). The intense fear of being abandoned by an (abusive) caregiver may then lead to a functional blockade of the mentalizing system, thereby fostering immature mentalizing strategies including pretend mode, mind-world isomorphism, or teleological thinking (Bateman and Fonagy 2004).

Based on these considerations, we have recently started to integrate MBT as a group therapy into an existing DBT programme for in-patients with BPD, who are treated in the hospital due to symptom severity (emotional instability, para-suicidal behaviour etc.)

and/or comorbid depression.

Overall, patients subjectively benefitted much from the additional programme. Clinically, patients improved substantially with regard to symptom severity, self-injurious behaviour and subjective well-being. In contrast, mentalizing skills did not change over time with regard to sequencing skills, which was entirely in line with expectations and our previous experience with cartoon-based mentalizing tasks in BPD (Ghiassi et al. 2010). Interestingly, however, patients with BPD tended to choose more prosocial endings and fewer avoidant endings of the cartoon stories, though the effect was not significant, probably due to the (still) low number of participants. We take this as a promising first indicator that our programme may have some positive effect on how patients use their mentalizing skills when interpreting social interactions. However, a more detailed analysis of the data is needed with regard to disentangling emotional and cognitive aspects of mentalizing (Harari et al. 2010).

This pilot study has several limitations that preclude drawing firm conclusions at this stage. First, the study is, at present, heavily underpowered. Second, for carving out potentially selective effects of MBT (adjunct to DBT, as opposed to DBT alone), a randomized controlled study design is mandatory, which is currently in progress. Third, katamnestic evaluation of the long-term stability of the putative effects is warranted.

In summary, the concept of combining DBT with MBT in an in-patient setting for individuals with BPD has proven feasible, and practicable with regard to time management and constraints. Moreover, the drop-out rate seems to be low, and patients perceive the additional MBT modules as helpful. Empirically, some interesting preliminary findings suggest that mentalizing skills do not improve per se; nevertheless, it could be that combined DBT-MBT treatment changes the way people with BPD see the social world around them, as indicated by the change of choices of story endings in our cartoon task. In light of the rather short intervention, we could not expect to find more significant findings with regard to mentalizing skills. After all, changes in reflective functioning take a lot more time, and may not occur after a 4-week treatment period. In addition, it cannot be expected that all patients with BPD respond equally well to MBT. In fact, some may benefit more than others, and such differences in treatment response may, among other factors, relate to the patients' attachment style, which was not controlled for in the present pilot study.

In any event, we are positive that our ongoing study and future research will shed more light on whether or not MBT designed as a group therapy setting has the potential to not only stabilise patients with regard to self-harm and emotion regulation, but also to help them see the world as a more trustworthy place.

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