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Effects of Motive-Oriented Therapeutic Relationship in a Ten-Session General Psychiatric Treatment of Borderline Personality Disorder: A Randomized Controlled Trial

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Key Words
Borderline personality disorder · Motive-oriented therapeutic relationship · Plan analysis · General psychiatric management · Randomized controlled trial · Outcome · Therapeutic alliance

Abstract
Background: Motive-oriented therapeutic relationship (MOTR) was postulated to be a particularly helpful therapeutic ingredient in the early treatment phase of patients with personality disorders, in particular with borderline personality disorder (BPD). The present randomized controlled study using an add-on design is the first study to test this assumption in a 10-session general psychiatric treatment with patients presenting with BPD on symptom reduction and therapeutic alliance. ***Methods:*** A total of 85 patients were randomized. They were either allocated to a manual-based short variant of the general psychiatric management (GPM) treatment (in 10 sessions) or to the same treatment where MOTR was deliberately added to the treatment. Treatment attrition and integrity analyses yielded satisfactory results. ***Results:*** The results of the intent-to-treat analyses suggested a global efficacy of MOTR, in the sense of an additional reduction of general problems, i.e. symptoms, interpersonal and social problems ($F_{1, 73} = 7.25$, $p < 0.05$). However, they also showed that MOTR did not yield an additional reduction of specific borderline symptoms. It was also shown that a stronger therapeutic alliance, as assessed by the therapist, developed in MOTR treatments compared to GPM ($Z_{55} = 0.99$, $p < 0.04$). ***Conclusions:*** These results suggest that adding MOTR to psychiatric and psychotherapeutic treatments of BPD is promising. Moreover, the findings shed additional light on the perspective of shortening treatments for patients presenting with BPD.

Introduction

Borderline personality disorder (BPD) is a severe condition generally requiring long-term treatment [1]. To date, several treatment models have been developed and have shown efficacy [2–11]. Long-term treatments bear important implications from a health economic point of

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view [1, 12, 13]. In order to optimize treatment effects at the same time as managing the health system's – and the therapist's – limited resources, it may ultimately be useful to individualize the therapy offer. We may argue that optimizing treatments by individualizing them may help to deliver what is indispensable for a particular individual and avoid delivering what is not absolutely necessary. Such a position aims at an integrative conception of psychotherapeutic and psychiatric management of BPD; this position is advocated by Critchfield and Benjamin [14; see also 15]. The present research aims at understanding the specific effects of a particular therapy ingredient helping to individualize treatments – the motive-oriented therapeutic relationship (MOTR) method [16] (a set of therapeutic relationship heuristics and intervention strategies) – on therapeutic outcome and the progression of the therapeutic alliance as a marker of the quality of the patient-therapist collaboration in the very first therapy sessions (until session 10). In addition to informing about the effects of an individualized relationship intervention as an added therapy ingredient, it is also important to better understand the therapeutic effects of very short treatments for BPD, in particular from a psychodynamic-psychiatric perspective. There is evidence with regard to the effectiveness of short-term psychodynamic treatments in terms of their overall efficacy [17] and for patients with personality disorder (PD) [18–20]. Therefore, information on individualizing treatments for BPD, as well as on how to possibly shorten them, seems promising – despite overall treatment recommendation for long-term therapy [8].

Plan analysis (PA), an integrative case conceptualization method and the ensuing relational technique of the MOTR were defined by Grawe [21], Caspar [16] and Caspar and Berger [22]. The main focus of PA is the instrumentality of behavior and experience, as means linked with underlying ends: based on the patient's verbal and, in particular, nonverbal behavior, the therapist makes inferences about the implied underlying Plans. Prototypical PA based on aggregated individual qualitative analyses exist, for example, for BPD [23]. Based on PA, the therapist defines and implements in an individualized way the therapeutic relationship offer for a specific patient, the MOTR (or MOTHER) [16, 24, 25]. The relational technique principle of MOTR is to proactively ensure that therapy will provide the means to satisfy the patient's needs and motives within the limits of the therapeutic relationship, without reinforcing problematic Plans, behaviors or experiences. For the patient, it is therefore no longer necessary to use his/her problematic means to attain his/her motives or goals, if these goals are satisfied within the therapeutic relationship. Since the structure of motives is highly individual, the relationship offer must be constructed differently for each patient, based on the information collected in the PA [for an example, see 26].

The use of PA and MOTR has been shown to be productive in a variety of settings, beyond the treatment of BPD [27–31]. For example, Caspar et al. [29] have shown that in particular the nonverbal component of the MOTR – the therapist moment-by-moment nonverbal motive-oriented complementarity to the client's Plans activated in a session or the therapist assuring the client that his/her activated specific motives were not threatened in therapy – was related to the therapeutic outcome in a sample of inpatients undergoing interpersonal psychotherapy for depression. Comparing a sample presenting with depression to a sample with depression with comorbid PD, Kramer et al. [30] found similar results to Caspar et al. [29], but only for the patient sample with comorbid PD. Finally, Kramer et al. [31] showed in a pilot study that MOTR had an additional effect on the decrease of interpersonal problems across a very short time frame compared to a treatment based on the principles of general psychiatric management (GPM) [32]. Patient-therapist collaboration, as conceptualized by the therapeutic alliance, increased in a steeper way in the MOTR condition compared to the comparison group. It needs to be argued that either these studies suffered from lack of power or did not use accurate methodology to clearly attribute the effects found to MOTR, by using an experimental design.

The present study aims at contributing to the understanding of the adding effects of MOTR in a short treatment frame of a variant of GPM [32] for patients with BPD. As such, we postulate an additional effect of MOTR on the decrease of general and specific symptoms over 10 sessions, along with higher markers of patient-therapist collaboration in the MOTR condition, compared to GPM.

Methods

Design

This single-blind randomized controlled add-on trial compared two 3-month treatments for BPD: a variant of GPM and GPM augmented with PA and MOTR (GPM plus MOTR, hereafter called MOTR). All patients were blinded to their allocated treatment condition until the end of treatment; logistic coordinators and MOTR adherence raters were also blinded to the patient's treatment condition; however, the principal investigator and the therapists were not blinded to the treatment condition. All treatments involved an extended phase of psychiatric assessment and initial treatment, lasting for 10 sessions for both conditions. When

Table 1. Characteristics of the patients as a function of group at baseline (n = 74)

Variables	Condition		χ^2	p value
	GPM (n = 38)	MOTR (n = 36)		
Female	30 (79)	21 (58)	3.67	0.08
Marital status			7.14	0.13
Never married	22 (58)	11 (31)		
Married	7 (18)	16 (36)		
Separated, divorced	9 (24)	9 (25)		
Employment			1.66	0.65
Unemployed	31 (82)	25 (69)		
Protected activity	1 (3)	1 (3)		
Part-time	2 (5)	4 (11)		
Full-time	4 (11)	6 (17)		
Medication			0.04	0.84
Yes	23 (61)	21 (58)		
Current DSM-IV diagnoses			4.07	0.32
Depressive disorder	26 (68)	30 (83)		
Anxiety disorder	6 (16)	7 (19)		
Eating disorder	5 (13)	5 (14)		
Substance abuse	31 (82)	23 (64)		
Intelligence limitation	3 (8)	3 (8)		
Sexual disorder	5 (13)	4 (11)		
Attention disorder	2 (5)	2 (6)		
Axis II cluster A	5 (13)	6 (17)		
Axis II cluster B	10 (26)	13 (36)		
Axis II cluster C	4 (11)	8 (22)		
Age, years	30.95±11.00	34.64±9.97	1.51[1]	0.14
Education, years	10.82±2.00	11.75±1.63	2.20[1]	0.06
Sessions, n	07.32±3.63	08.00±2.94	0.88[1]	0.38
Global Assessment of Functioning	57.63±7.77	61.14±8.27	1.88[1]	0.07
BPD symptoms, n	06.68±1.34	06.69±1.43	0.03[1]	0.98
Current axis I disorder	01.92±0.91	01.88±1.14	0.13[1]	0.89
Current axis II disorder	00.50±0.76	00.64±0.76	0.78[1]	0.44

ITT sample. Values are expressed as numbers (with percentages in parentheses) or as means ± SD. All diagnostic information in comorbidity with DSM-IV BPD.

[1] These are t values and not χ^2.

indicated, more treatment was proposed to the patients; however, this later treatment phase was not the object of the present research. All treatments were conducted at a European French-speaking outpatient university psychiatry clinic. Participants were recruited between May 2010 and March 2013. The research protocol was approved by the local ethics board (clearance number 254/08), as well as the research committee of the university department. In accordance with national law, participants did not pay for treatment. The trial was registered in the ClinicalTrials.gov database (NCT01896024).

Participants

Patients

Inclusion criteria were the presence of a DSM-IV BPD diagnosis and being between 18 and 65 years of age at the time of recruitment. Exclusion criteria were the presence of a DSM-IV psychotic disorder, with mental retardation and substance abuse at the forefront. Minimal exclusion criteria were formulated in order to increase the external validity of the trial. DSM-IV diagnoses of BPD were established by trained clinicians or clinician researchers for all patients using the structured clinical interview for DSM-IV (SCID-II [33]; reliability of the DSM-IV axis II diagnoses was satisfactory; $\kappa = 0.81$). These analyses were done on independent ratings of video-taped SCID-II diagnostic interviews on a randomly chosen 10% (n = 9) of all included patients. Comorbid psychiatric disorders (assessed by the Mini International Neuropsychiatric Interview for axis I [34] and assessed by the SCID-II for axis II) are shown in table 1. The assessments, data handling and adherence observer ratings were done by 1 research assistant mainly, with the help of 3 other research assistants when needed. At the end of the

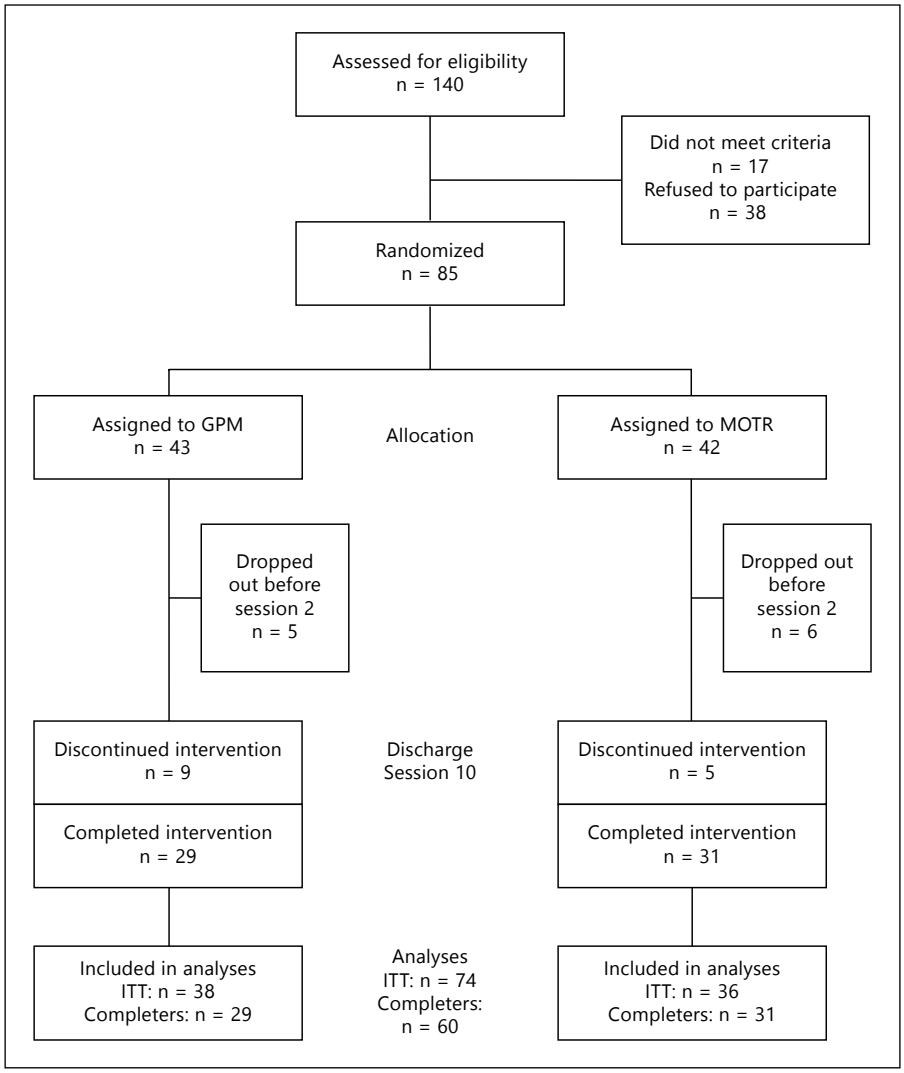

Fig. 1. Flow chart of study.

study, the main research assistant was polled by the study head, which showed that she correctly guessed the treatment assignment in 25% of all included cases; this suggests that she was sufficiently blinded to treatment assignment.

Out of 140 patients approached for the study, 17 did not meet the criteria in an intake assessment and 38 refused to participate; thus, 55 were excluded (see fig. 1). As a result, 85 patients were randomized into either condition (GPM or MOTR); 43 patients were assigned to GPM and 42 patients to MOTR. Even though they accepted the study and were randomized, a total of 11 patients (5 in GPM and 6 in MOTR) did not come back after session 1, refusing all initial and further assessment related to the research. Because of design-related constraints (MOTR was only introduced after session 1), this group of patients were called early nonengagers, resulting in missing data. An additional total of 14 discontinued treatment between sessions 2 and 10 (9 for GPM and 5 for MOTR). In all intent-to-treat (ITT) analyses, a total of 74 patients were included (GPM ITT: n = 38; MOTR ITT: n = 36); in all completer analyses, a total of 60 patients were included (GPM completers: n = 29; MOTR completers: n = 31). Randomization was performed using an internet-based block randomization program; sealed envelopes were prepared by an independent researcher and opened when the patient accepted the study.

Therapists

In total, 22 therapists were involved in the treatment of the patients included (ITT sample: GPM, n = 13; MOTR, n = 9). Therapists were randomized to the treatment condition at the outset of the study; therefore, each therapist conducted treatments for only one condition. In the GPM condition, 1 therapist treated 11 patients, 1 therapist treated 5 patients, 2 therapists treated 4 patients, 1 therapist treated 3 patients, 3 therapists treated 2 patients and 5 therapists treated 1 patient each. In the MOTR condition, 1 therapist treated 14 patients, 1 therapist treated 6 patients, 2 therapists treated 4 patients, 1 therapist treated 3 patients, 1 therapist treated 2 patients and 3 therapists treated 1 patient each. All therapists had at least 1 year of psychiatry residency at the time of the study, with

an overall average of 2.5 years of clinical residency. Therapists included psychiatrists and psychologists with at least a basic psychodynamic background (n = 19); some therapists were nurses (n = 3); therapists were equally distributed in both treatment conditions. All therapists were trained at the outset of the study and as an ongoing process during the entire study in the model by Gunderson and Links [32] (see Treatment Condition 1). The supervisors had received formal training in psychodynamic psychotherapy and specific training in clinical management of patients with BPD according to the principles of Gunderson and Links [32]. For the MOTR condition, training and supervision were provided by the model developer and an expert in this approach. All treatments were supervised twice over the course of the process, the first supervision session taking place right after the intake session and the second in the second half of the process. The therapists received the same amount of supervision in both conditions. Therapists were recruited from the pool of therapists working at the outpatient university clinic where the study took place. Therapists were polled at the end of treatment with regard to the study central hypothesis and out of the 22 therapists, 2 (9%) correctly formulated the main study hypothesis (GPM: n = 1; MOTR: n = 1), whereas the other 20 (91%) either indicated that they had 'no idea' or formulated a false hypothesis. Given the low prevalence of positive response and its equal between-group distribution, it can be concluded that therapists were sufficiently blinded to the main study hypothesis.

Treatment Conditions

Condition 1: GPM

In condition 1, a 10-session treatment for patients presenting with BPD was based on a psychiatric and psychotherapeutic approach [32], which was founded on an attachment-informed etiological model of BPD. A specific manual was elaborated in order to adapt the GPM treatment principles enumerated by Gunderson and Links [32] to 10 sessions [Kolly et al., unpubl. data]. The imperatives of this manual are as follows: (1) establishment of reliable psychiatric diagnoses, including comorbidities and other problem areas, and communication of this information to the patient; (2) establishment of psychiatric anamnesis; (3) identification of the main problems to be treated and establishment of treatment focus; (4) definition of short-term objectives and general enhancement of motivation; (5) identification of and dealing with treatment-interfering problems, and (6) formulation of relational interpretations of core conflictual themes. One session per week was given; if necessary, short-term inpatient treatment was organized, as was adjunct pharmacotherapy.

Condition 2: Add-on MOTR

The MOTR condition differs from the GPM condition, described above, in that a full PA and ensuing MOTR techniques (see above) are implemented during the treatment when indicated. MOTR is 'infused' in the process from session 2 to session 10. MOTR is implemented after the intake session which serves the therapist as data for the establishment of the PA and the ensuing MOTR.

Treatment Fidelity

In order to control for treatment fidelity in both treatment conditions, we applied two distinct assessment procedures to equal numbers of cases from both groups. In order to measure treatment fidelity of GPM, the General Psychiatric Management Adherence Scale (GPMAS [35]; described under Instruments) was given to a subsample of therapists treating 40 patients (GPM condition: n = 20; MOTR condition: n = 20). Adherence was assessed at the end of each of the 40 treatments. We did not give the scale to the patients, for two reasons: (1) ethical: the patients had a great number of items to rate already and it was not possible to add more and (2) empirical: in the original study by Kolla et al. [35], patient's and therapist's scores presented moderate correlations, suggesting some redundancy between these two perspectives. We predict that scores do not differ between the conditions.

In order to assess treatment fidelity of MOTR, we used the observed-rated methods of PA and the MOTR scale [29] (described under Instruments) for all treatment completers (n = 60). The PA was established based on the intake session by an independent rater (not the therapist), and the MOTR was assessed minute-by-minute by an external rater (not the therapist) blinded to the treatment assignment on 1 randomly chosen session of the remaining sessions. A cutoff of +1 (on the MOTR scale ranging from –3 to +3) was defined a priori. This means that it was expected that MOTR treatments get average MOTR session scores greater than +1 and that GPM-based treatments yield average MOTR session scores lower than +1.

Instruments

Main Outcome

Outcome Questionnaire – 45.2 (OQ-45), a self-report questionnaire, comprises 45 items aimed at assessing results yielded from psychotherapy, including a global score and three subscale scores: symptomatic level, interpersonal relationships and social role [36]. These items are assessed on a Likert-type scale ranging from 1 (never) to 4 (always); a total sum score and scores per subscale are computed. The scale has been translated and validated in French [Emond et al., unpubl. data]. This questionnaire was given at intake and at discharge. Cronbach's alpha for the current sample was $\alpha = 0.94$.

Secondary Outcomes

Inventory of Interpersonal Problems (IIP), a self-report questionnaire, comprises (in this shortened version) 64 items aimed at assessing interpersonal functioning [37]. These items are assessed using a Likert-type scale ranging between 0 (not at all) and 4 (very much); we used the global score which is a mean of all items. The scale was translated into French by Stigler [unpubl. data]. This questionnaire was given at intake and at discharge. Cronbach's alpha for the current sample was $\alpha = 0.94$.

Borderline Symptom List (BSL-23), a self-report questionnaire, assesses specific borderline symptomatology using 23 items [38]. As such, it represents a short version of the more extensive BSL-95 [37], for which excellent psychometric properties were reported. Similar results were found for the short version [39]. The items are assessed using a Likert-type scale ranging from 0 (absent) to 4 (clearly present); an overall mean score is computed. The French translation [Page et al., unpubl. data] was approved by the authors of the scale. Cronbach's alpha for the current sample was $\alpha = 0.95$.

Working Alliance Inventory – short form (WAI-short version), a self-report questionnaire, comprises 12 items and assesses the different dimensions of therapeutic alliance, the bond between patient and therapist and the agreement on therapy collaboration (goals and tasks) [40]. These items are assessed on a Likert-type

scale ranging from 1 (never) to 7 (always); an overall sum score is computed [French validation by Corbière et al., 41]. This questionnaire is filled in by the patient and the therapist at the end of each of the 10 sessions. Cronbach's alpha for the current sample was α = 0.92 (patient version) and α = 0.91 (therapist version).

Treatment Integrity

The GPMAS, a therapist self-report questionnaire, comprises 48 items aimed at assessing therapist interventions and behaviors consistent with the psychodynamic-psychiatric approach [35]. These items are assessed on a Likert-type scale ranging from 1 (not at all) to 5 (completely present); an overall mean score is computed. This questionnaire is filled in by the therapist at the end of the 10-session treatment with regard to the entire treatment delivered for a specific patient. The French translation of the original scale was performed by Kramer and Kolly [unpubl. data]. Cronbach's alpha for the current sample was α = 0.90.

The application of PA and the MOTR scale [16, 29] was used to check therapists' adherence to MOTR in the MOTR condition and their nonadherence to MOTR in the GPM condition. The MOTR scale ranges from –3 (anticomplementary) to +3 (complementary). The procedure for reliability checks followed the requirements of Caspar and Grosse Holtforth [42]: (1) PA (interrater reliability checks following the procedure described by Kramer et al. [43]), by establishing an individualized and meaningful formulation of the patient's problems, experiences, Plans and motives and (2) MOTR rating (interrater reliability checks following the procedure described by Caspar et al. [29]). MOTR rating involves the sequential assessment of therapist interventions (events), the identification (by the rater) of the involved patient Plan (derived from the idiosyncratic PA) and the coding (by the rater) of the therapist's actual degree of MOTR to the involved Plan(s) in the selected event. The PA methodology relies on the rater's perception of the therapist's accurate level of responding to a patient minute-by-minute (on the level of acceptable, yet close-to-behavior motives). The accuracy of therapist response is defined a priori by the PA established for each patient. French versions of the scales were available and successfully applied in earlier studies [30, 31]. The reliability sample was defined based on the recommendations of Wirtz and Caspar [44] (a randomly selected 10% of all ratings, for both steps, PA and MOTR). All ratings were done by a total of 3 raters, with reliability established among pairs.

Procedure

After the intake interview, the patients met with the program-related researcher who explained the study to them. Immediately after this, all included patients were randomly assigned to a condition – either GPM or MOTR. All intake sessions were video-taped. All remaining sessions were tape-recorded or video-taped. Finally, after this 10-session process, the patient was oriented towards long-term treatments (psychiatric treatment or psychotherapeutic treatment program). The current study only focuses on the effects during the treatment up to session 10. Follow-up data were not analyzed at this point.

Statistical Analyses

At the outset of the study, a power analysis was conducted based on previous research on the effect of MOTR on outcome variables [31]. With a presumed power of 0.80, a 30% dropout rate [45] and a two-tailed alpha of 0.05, the power analysis yielded a total of 80 patients to be included (n = 56 completers).

All analyses were done using the ITT sample with full data sets (n = 74 patients); in addition, all patients having completed treatment were included into completer analyses (n = 60 patients).

The test of adequacy of randomization involved t tests for all continuous variables and χ^2 for all dichotomous variables. Frequency of dropout was also tested.

In order to test the between-group difference of the main outcome variable (condition × time), an ANCOVA was conducted on the OQ-45 total score and a MANCOVA was conducted for the three subscales, taking symptom level at intake as covariate. Conditions of application for these analyses were tested beforehand and were fulfilled. We also tested the effect of time by using repeated-measures ANOVAs (time).

In order to test the between-group differences related to the secondary outcome variables, ANCOVAs were conducted on the IIP and BSL, taking symptom level at intake as covariate (condition × time). Conditions of application for these analyses were tested beforehand and were fulfilled. We also tested the effect of time by using repeated measures ANOVAs (time). All analyses were conducted both for the ITT and completer samples.

In order to test the between-group difference of the therapeutic alliance, two sets of analyses were conducted on both patient and therapist assessments of alliance. First, a univariate ANOVA was conducted to test the between-group effect on the average alliance. Second, in order to address limitations of the averaging of time-dependent scores, i.e. taking into account the alliance progression over 10 sessions and the interdependency between the data points [46, 47], a 2-level hierarchical linear model (HLM) was used [48]. The dependent variable was the therapeutic alliance (patient and therapist assessment), the condition was the fixed factor, the sessions were on level 1 and the patients were on level 2 [level 1: $\gamma_{ij} = \beta_{0j} \cdot (\text{session}) + \beta_{1j} + \varepsilon$; level 2: $\beta_{0j} = \gamma_{00} + \mu_{0j}$; $\beta_{1j} = \gamma_{10} + \gamma_{11} \cdot (\text{condition}) + u_{1j}$].

Bonferroni's corrections were applied where necessary for all analyses. Missing data resulted either in the exclusion of the case (due to early nonengagement) or in the strategy of last observation carried forward (LOCF). Both analyses (LOCF and non-LOCF) were conducted and reported where the result differed. In cases where it did not differ, we used LOCF. All statistical analyses were performed using the SPSS 21 program, except for the HLM, for which HLM 6 was used.

Results

Characteristics at Baseline

Due to early nonengagement of 11 patients, resulting in missing data, the ITT analyses were conducted on a sample of 74 out of the 85 patients randomized. No between-group effects appeared for all variables at baseline (see table 1). In particular, for the outcome variables, there were no between-group differences at intake (OQ-45 total: $t_{1, 72} = -0.62$, p = 0.54; OQ-symptom distress: $t_{1, 72} = -1.03$, p = 0.31; OQ-interpersonal relationships: $t_{1, 72} = 0.01$, p = 0.99; OQ-social role: $t_{1, 72} = 0.07$,

p = 0.95; IIP: $t_{1, 66} = -1.65$, p = 0.10; BSL: $t_{1, 60} = -0.53$, p = 0.60).

Similar to the ITT analyses, the number of sessions for the completer sample did not differ between the groups: mean (GPM completers) = 8.86 ± 2.23; mean (MOTR completers) = 8.77 ± 2.22; $t_{1, 58} = 0.15$, p = 0.88.

The number of patients who needed further treatment (after session 10) did not differ between the groups: GPM: 20 (69%); MOTR: 22 (71%); χ^2 (1) = 0.03, p = 0.86.

Treatment Attrition and Integrity

Attrition was composed of two aspects: (1) early nonengagers in treatment (only coming in for session 1 and refusing the research assessment) and (2) treatment discontinuation. Points (1) and (2) together showed 31% (n = 25) of attrition (GPM: n = 14; MOTR: n = 11); 13% (n = 11) of the randomized participants were early nonengagers (GPM: n = 5; MOTR: n = 6) and 16% (n = 14) discontinued treatment after session 2 (GPM: n = 9; MOTR: n = 5; χ^2 (1) = 1.16, p = 0.28).

Adherence to GPM was measured at the end on 40 treatments (n = 20 per treatment condition) and showed high treatment integrity for both the GPM condition (mean = 4.32 ± 0.37) and for the MOTR condition (mean = 4.37 ± 0.26), which did not differ between the conditions ($t_{1, 38} = 0.58$, p = 0.57).

Adherence to MOTR was measured on all treatment completers (n = 60) using the individualized paradigm of assessment described above. The results showed high treatment integrity for MOTR (mean total = 1.55 ± 0.44, range 1.00–2.75; mean verbal = 1.28 ± 0.57, range 0.43–2.67; mean nonverbal = 1.78 ± 0.39, range 1.17–2.83) and notably lower presence of the MOTR variable in the GPM condition (mean total = 0.45 ± 0.38, range –0.46 to 1.00; mean verbal = 0.31 ± 0.59, range –0.63 to 1.00; mean nonverbal = 0.59 ± 0.45, range –0.36 to 1.42). The between-group difference regarding the total score of the MOTR scale was highly significant ($t_{1, 59} = 10.62$, p < 0.00). No cases were to be excluded due to false negatives of the total score (below-threshold adherence in the MOTR condition) or false positives of the total score (above-threshold presence of MOTR in the GPM condition).

Reliability checks were done on 10% of the sample (3 randomly chosen cases per condition, 6 in total) for the PA and MOTR. With regard to PA, the total mean correspondence between 2 independent raters on qualitative material was 65.83 ± 2.91% (range 62–70). With regard to the MOTR ratings, Spearman's rank correlations between the ratings of 2 independent raters were mean rho = 0.83 ± 0.13 (range 0.70–1.00) for the verbal component, mean rho = 0.82 ± 0.12 (range 0.61–1.00) for the nonverbal component and mean rho = 0.84 ± 0.09 (range 0.71–1.00) for the entire scale. These reliability checks of the MOTR adherence ratings were considered excellent.

Treatment integrity was therefore highly acceptable for both conditions.

Primary Outcome

For the ITT analyses (see table 2) using ANCOVA (symptom level at intake as covariate), there was a main between-group effect (condition × time) on the total score of the OQ-45 ($F_{1, 73} = 7.25$, p < 0.02, at the level 0.05/4). Using MANCOVA (symptom level at intake as covariate) on the three subscales (condition × time), there was a nearly significant effect favoring MOTR ($F_{3, 67} = 2.50$, p = 0.06). Analyzing each subscale separately, they are all significantly different between the conditions in terms of outcome (see table 2). Using repeated measures ANOVAs, there is a systematic time effect for all patients taken together in favor of symptom reduction between intake and discharge.

The condition × time effects remained stable for the completer analyses (ANCOVA total score OQ-45: $F_{1, 59} = 5.26$, p = 0.02; MANCOVA including symptom distress: $F_{1, 59} = 4.30$, p = 0.04; interpersonal problems: $F_{1, 59} = 3.43$, p = 0.07; social role: $F_{1, 59} = 3.83$, p = 0.05). All reported results were at Bonferroni's corrected significance level of p = 0.05/4.

Secondary Outcomes

For the ITT analyses (see table 2) there were time effects but no between-group effect for the secondary outcomes (IIP and BSL). However, for the completer analyses the IIP presented a nearly significant effect in the MOTR condition compared to the GPM condition ($F_{1, 50} = 3.22$, p = 0.07). For the BSL, there was no between-group effect for the completers ($F_{1, 51} = 0.09$, p = 0.77).

Therapeutic Alliance

For the therapeutic alliance (see table 2; n = 57), there was no between-group effect either for the patient's or the therapist's mean ratings. However, when using HLM we observed a therapist effect favoring the alliance progression in MOTR treatments (coefficient = 0.99; SE = 0.49; t ratio = 2.03; d.f. = 55, p = 0.04) which was not found for the patients (coefficient = 0.01; SE = 0.52; t ratio = 0.02; d.f. = 55, p = 0.98). This result is depicted in figure 2 using the raw data of the therapists' ratings per session, over time.

Table 2. Therapeutic outcome as a function of treatment assignment for 10 sessions of treatment (n = 74)

Outcome	Condition		Time-effect ANOVAs		Condition × time-effect ANCOVAs	
	GPM (n = 38)	MOTR (n = 36)	$F_{1, 72}$	effect size	$F_{1, 73}$	effect size
OQ-total			36.51**	0.59	7.25*	0.64
Intake	94.50±26.38	98.14±23.66				
Discharge	86.13±25.41	75.97±25.37				
Symptoms			43.89**	0.63	5.50*	0.60
Intake	56.87±16.65	60.64±14.74				
Discharge	50.63±16.71	46.39±15.89				
Interpersonal			22.30**	0.48	5.13*	0.46
Intake	22.55±7.35	22.53±7.43				
Discharge	22.53±7.43	17.61±6.77				
Social role			5.21*	0.23	5.51*	0.49
Intake	15.08±6.38	14.97±6.95				
Discharge	14.97±5.98	11.97±6.41				
IIP			20.74**	0.36	1.59	0.39
Intake	1.67±0.53	1.90±0.59				
Discharge	1.54±0.65	1.60±0.61				
BSL			6.35**	0.28	0.00	0.06
Intake	1.74±0.92	1.87±0.96				
Discharge	1.51±0.97	1.58±0.99				
Therapeutic alliance						
Patient	58.09±14.44	54.62±13.07			1.04	0.25
Therapist	50.52±9.17	50.87±9.59			0.02	0.04

ITT sample (excluding missing data). Effect size: Cohen's d. Time-effect: repeated measures ANOVAs. Condition × time-effect: MANCOVA (OQ-symptoms, OQ-interpersonal, OQ-social role): $F_{3, 67} = 2.50$, $p = 0.06$; ANCOVAs (separately OQ-total; IIP; BSL). IIP for subsample: n = 61 (d.f. = 59). BSL for subsample: n = 61 (d.f. = 59). Therapeutic alliance for subsample: n = 57 (d.f. = 56). Bonferroni's correction applied: p = 0.05/4 (4 tests: 1 MANCOVA and 3 additional ANCOVAs).

* $p < 0.05$; ** $p < 0.01$.

Discussion

This is the first study which has systematically assessed the effects of adding MOTR to a treatment based on the principles of GPM for BPD. We postulated that MOTR had an adding effect on therapeutic outcome and on the quality of the collaboration between the patient and the therapist. Results partially confirmed this assumption.

Individualizing treatments (in particular a variant of GPM by using the MOTR), produces more symptom reduction, especially in terms of distress. It also produces, over time, an increasingly positive therapist assessment of the patient-therapist collaboration. However, the individualizing of treatment did not have any additional impact on specific borderline symptoms. We hypothesize that because GPM is a treatment aimed specifically at containing and diminishing the borderline symptoms, there might actually be very little room for improvement of the effect within such a short time frame. This hypoth-

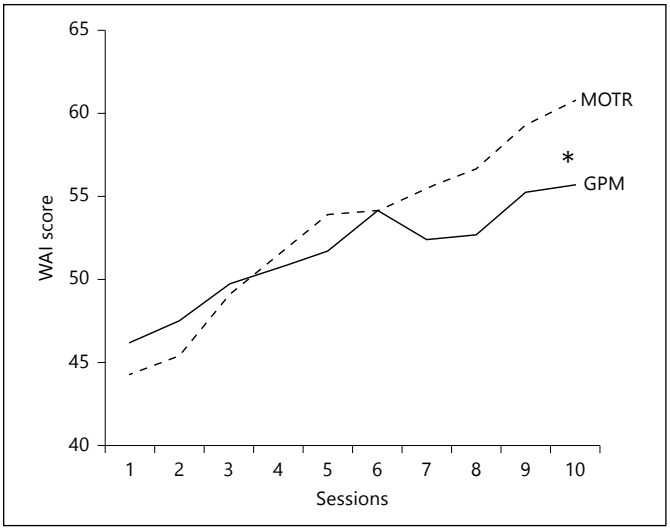

Fig. 2. HLM of differential alliance (WAI) session-by-session progression (therapist ratings) as a function of treatment condition (n = 57). * $p < 0.05$.

esis is supported by the significant pre-post effect for borderline symptoms in both treatment conditions. Moreover, it was somewhat surprising to us that whereas the therapists' assessment of alliance in MOTR increased significantly more compared to their assessment in GPM, this was not the case for the patients' assessment of the therapeutic alliance. This finding is in contrast to the results of Kramer et al. [31] on a small sample where a between-group effect was found for the patients' assessment (but not for the therapists' assessment). This result is also to some extent in contrast with the effect on the quality of the therapeutic alliance, as rated by the patient, in a quite different therapy context based on schema-focused therapy [49]. In order to explain these divergences, we hypothesize that in MOTR treatments, the increasing quality of the collaboration facing patients with BPD is only apparent to the *therapist* in these beginning therapy sessions; the patient in the MOTR condition actually sees the collaboration in the same fashion as in the GPM condition (increasingly better), but is perfectly unaware of the implicit interaction focused on motives. The treatments might have been too short to actually show effects on the patient's perception of the therapeutic alliance, which may be measurable only after some time. The results found by Schmutz et al. [unpubl. data] support these explanations, where a direct effect of MOTR on therapeutic outcome was found without a mediating effect for the therapeutic alliance, as rated by the patient. Alternatively, we must admit there might have been a moderate ceiling effect at stake in this data set, as patients tended to rate alliances quite highly in this sample. The lower levels of therapists' alliance ratings compared to those of the patients, excluding a potential ceiling effect for the therapists, support this explanation. One might also argue that the therapist-only effect on the alliance may be due to a self-fulfilling prophecy; the therapists might have been aware that MOTR aimed at fostering increasingly good alliances and might have rated accordingly. While this might be the case, we also argue that according to our poll the therapists were mostly unaware of the study's main hypothesis, which should control for such an effect.

MOTR has shown its relevance in this study as a treatment ingredient in the context of an approach that has no theoretical link with the original PA concept. This result points to the added value of MOTR when integrated or combined with an established treatment form. The effect sizes of the present add-on study are slightly larger than reported in a recent meta-analysis on all additive studies in psychotherapy ($d = 0.14$ and $d = 0.28$), which are interpreted as small but significant additive improvements [50]. Larger effect sizes in our study might be due to the specific nature of MOTR, a relationship technique much closer to what Ahn and Wampold [51] called the common factors in psychotherapy. MOTR can be called an individualized descriptor of the 'how' of an intervention (beyond empathy, unspecific resource actuation and positive regard) – truly tuned in on the level of the individual patient's authentic and central motives and needs.

The present study has also confirmed to some extent the results by McMain et al. [10] on the effects of treatments based on GPM principles. GPM and its derivatives as a APA-informed psychiatric and psychodynamic treatment [8] has the potential to become an important treatment form for BPD due to its detailed description of clinical procedures (close to a manual) and a convincing attachment-based etiological model of the disorder [32]. Albeit most patients in our sample needed further treatment, their pre-post effect sizes are impressive, given the 10-session time frame. This is consistent with some of the literature on the effects of short-term dynamic psychotherapy for PD [18, 19]. This phenomenon might be explained by the generic model of psychotherapy change [52], where the initial therapy phase is characterized by remoralization which correlates on average with initial symptom relief. In particular, the acceleration of the rate of change might be greater in more symptomatic samples, such as patients presenting with PD [20], and MOTR seems to play a facilitating role in this process.

We need to acknowledge a number of limitations to the present study. This study only examines 10 sessions of treatment; we do not know what the effect of our variables is in longer-term treatments. In order to increase the external validity of the trial, we limited the number of exclusion criteria. Therefore, we cannot rule out the influence of comorbid disorders or variations in the level of intelligence, as well as the presence of co-interventions that were clinically indicated (medication, social intervention, alcohol counseling, short-term inpatient treatment), on the treatment outcome. Our primary outcome was self-reported which is subject to responder bias. An analog criticism may be addressed at the GPMAS as a therapist self-report, which may be considered as an important limitation. Our sample had a high female prevalence; insufficient power prevented us from testing the hypotheses using subgroups.

Nevertheless, this study is a step towards understanding the effect of explicitly and deliberately individualizing intervention strategies (by using PA/MOTR as a particular method to do so) and if idiosyncratically informed therapy is worth doing, more research is needed to under-

stand its mechanisms of change. Also, if it is true that the specific effect of MOTR on the patients' view of the quality of collaboration needs more time to develop, a similar study on a longer treatment frame is needed to address this assumption. Finally, it remains an open question whether individualizing other established treatments of BPD would produce similar effects to those observed in the current study.

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Disclosure Statement

The authors report that they have no conflicts of interest.

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