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Short communication

Promotion of mindfulness in psychotherapists in training: Preliminary study

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Abstract

This study examined whether the promotion of mindfulness in psychotherapists in training can influence the treatment results of their patients. The therapeutic course and treatment results of 196 inpatients, who were treated during a nine week period by nine psychotherapists in training, were compared: in the first phase of the study, the treatment group without (CG, historical control group, $n = 55$), and in the second phase the treatment group with, (MFG, $n = 58$) therapists who were currently practicing Zen meditation. The results of treatment were examined (according to the intent-to-treat principle) with the Session Questionnaire for General and Differential Individual Psychotherapy (STEP), the Questionnaire of Changes in Experience and Behaviour (VEV) and the Symptom Checklist (SCL-90-R), and showed significantly better results in the MFG.

Keywords: Mindfulness; ZEN meditation; Psychotherapists in training

1. Introduction

All psychotherapists need to practice a certain degree of vigilance during therapy [5]. The task is highly complex: a therapist must assess the most subtle verbal and non-verbal cues and simultaneously regulate his or her own reactions [16]. An increased ability to engage in self-reflection and self-regulation, acquired through self-experience, strengthens these abilities [2,7].

In order to further promote these skills, attention exercises that were historically developed in the Buddhist practice of meditation were integrated into psychotherapeutic treatment approaches during the course of the eighties and nineties [12]. Mindfulness is one such method. It understood as a present moment, purposeful and non-judgmental form of directing attention [4].

However, we are not aware of any studies that prospectively examine the direct influence of the promotion of mindfulness in psychotherapists on their patients' psychotherapeutic results. The authors known to us concentrate exclusively on patient intervention [14,18], or on the indirect effects of enhancing mindfulness in health care professionals and students [9,15].

The aim of this study was to assess whether there are indications that the promotion of mindfulness, through daily Zen meditation, in psychotherapists in training influences the treatment results of their patients.

2. Subjects and methods

2.1. Study general framework and subjects

The study was conducted in 2004/2005 in the Inntalklinik, Simbach am Inn, Germany, a. 200+ bed-psychosomatic hospital and licensed training institution. Psychologists who want to work as psychotherapists in Germany can complete the

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required three year internship here following their university studies. Their patients' therapeutic results are always evaluated as part of their training.

A homogenous group of psychotherapists in training (PiT) took part in the study. They all had the equivalent of a bachelor's degree in psychology and were in their second year of training. All the patients who were treated by the PiTs at the time of the study were included.

2.2. Assessment

The admission diagnoses were qualified by means of Structured Clinical Interviews (SCID). The questionnaires included socio-demographic data, the Session Questionnaire for General and Differential Individual Psychotherapy STEP [7], the Questionnaire of Changes in Experience and Behaviour VEV [19], and the Symptom Checklist SCL-90-R [11].

The STEP is a German questionnaire that records the various general influencing factors in the psychotherapeutic process from the perspective of the patients. The 12 items directly relate to the experience of a therapy session in an individual setting and form three subscales: K – clarification perspective, P – problem solving perspective and B – relationship perspective. Directly following a therapy session, the patients note on a seven step answer scale whether the respective statement applies (Cronbach's alpha between $r = .71$ and $r = .91$). The scale's raw values are transformed into *T*-values.

The VEV is a German questionnaire that quantitatively assesses subjectively perceived changes in experience and behaviour. The questionnaire contains 42 questions on change, which record the subject's subjectively perceived conditions in comparative form. In validating studies, the variance analysis of the post-test data showed that the differences between the groups were significant on a 0.5% niveau (multiple validity coefficients $r = .72$).

The SCL-90-R measures subjectively perceived impediments through 90 of the person's physical and psychological symptoms during the previous seven days. Once interpreted, it offers an overview of the person's emotional and symptomatic stress on nine scales: somatization, obsession/compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychotism. The GSI (Global Severity Index) is also part of the Symptom Checklist and measures basic psychological stress. It can be portrayed on a five-tiered Likert scale between "absolutely not" (0) and "very strong" (4). The transformation of the raw data to *T* scores, with the socio-demographic factors taken into consideration, makes an oriented classification of the individual case possible. *T*-scores starting at 60 are considered lightly elevated, at 65 obviously, at 70 strongly, and at 75 very strongly elevated. In the control group, the internal consistency (Cronbach's alpha) lay between $r = .75$ and $r = .87$.

2.3. Study design

Based on our statistics on the average hospital occupancy, we estimated the time necessary for the study duration as two phases of nine weeks (two months) each. A total of 113 patients, whose health insurance approved treatment periods of four or six weeks, were recruited for both phases of the study (see below): prior to the introduction of meditation for PiTs [CG; 9 (15.5%) men, 49 (84.5%) women] and while the PiTs were meditating [MFG; 9 (16.4%) men, 46 (83.6%) women]. Patients with the two different lengths of treatment were equally distributed in the study. Written permission was obtained for using data related to the therapy. Both the patients (they knew nothing about the changes in the content of the PiT training) and the PiTs (the reasons for the change in the training plan was not mentioned) were naive to the hypothesis. Not revealing the background for the introduction of Zen meditation at the end of the second year of training was ethically and legally proper. The Inntalklinik is currently the only hospital in Bavaria that is licensed to offer this training. The psychologists are accepted for the training with the basic provision that the training plan is innovative and can be experimentally adjusted for the purposes of researching the optimal content for the training program. The patients are also aware of this. The objective of the data collection during this training period was first revealed to the therapists and patients after completion of the last test. No objections were raised to further use of the data.

In the first study phase the PiT training program remained unchanged; in the second, Zen meditation was conducted. A Japanese Zen master domiciled in Germany, who was likewise unaware of the reasons for introducing Zen meditation at that point in time, led the group meditation [10]. The course contained instructions for motionless sitting, in the lotus position or half lotus position, on a meditation pillow. The Zen training itself was carried out in part as directed (assisted) mediation for focusing attention on breathing and in part in silence without this assistance. The directed mediation was similar to the presumably oldest surviving detailed instructions for meditation, the Discourse on the Mindfulness of Breathing (Anapanasati Sutra, approx. 500 B.C.). It deals with an exercise from Thich Naht Hanh [10].

The meditation took place daily over a nine week period daily (Monday through Friday) from 7:00 to 8:00.

The patients were treated according to an inpatient, integrative psychiatric-psychotherapeutic plan. The treatment involved two individual psychotherapeutic sessions (50 min each), five group therapy sessions (60 min each), two group sessions of gestalt therapy (60 min each), five sessions of group body psychotherapy based on psychoanalysis (60 min each), two sessions of progressive muscle relaxation based on Jacobson (30 min each), and sports and gymnastic groups (totalling 480 min) per week. In addition, where indicated, individual appointments were made for physical therapy, nutritional counselling, or co-therapy and social counselling.

Following each individual therapy session, the patients filled out the STEP questionnaire, and after completion of their inpatient treatment, they filled the VEV form out once. The SCL-90-R was carried out at admission and prior to discharge. No PiTs dropped out.

Table 1
Socio-demographic data

	Age (years)[a]	Living in a partnership	Blue collar worker	Career			Within the previous two years	
				White collar worker	Housewife or House-husband	Outpatient psychotherapy	Psycho-pharmaca	Inpatient psychiatry/ psychotherapy
MFT $n = 58$	38.1 ± 9.7	31 (53.4%)	24 (41.4%)	12 (20.7%)	22 (37.9%)	21 (36.2%)	32 (55.2%)	8 (13.8%)
CG $n = 55$	39.5 ± 9.1	30 (54.5%)	21 (38.2%)	11 (20.0%)	23 (41.8%)	24 (43.6%)	31 (56.4%)	9 (16.4%)

Abbreviations: MFT – the patient group that was treated during the phase in which the therapists practiced Zen meditation; CG – control group (patients who were treated during the phase before Zen meditation began).
[a] Mean value ± standard deviation.

2.4. Source of funding and ethical considerations

The study was planned and performed in accordance with the Declaration of Helsinki, approved by the clinic's ''Ethikkommission'', and was not funded.

2.5. Data analysis

Data from STEP are presented according to the intent-to-treat principle with means, standard deviations and 95% confidence intervals (95%-CI).

For the analysis of the time course for the response values, a (two-level) linear mixed-effects model was used [1,13,17]. Through its fixed effects, this regression model allows assessment of systematic differences between treatments. By means of its random effects, it takes, the hierarchic and longitudinal structure of the data (and hence their correlation) into account on the one hand and the possible random variation in the time courses between patients and PiTs on the other. The results from the VEV are portrayed as the difference in the scores for the scales and p for the treatment effect.

We employed the statistics software S-PLUS 6.0 of the Data Analysis Products Division of MathSoft, Seattle, Washington/USA, with the ''nlme''-library version 3.3.1 for mixed-effects models by Pinheiro and Bates [13].

3. Results

Both groups consisted of approximately 20% men and 80% women. This pronounced overrepresentation of female patients is typical for our psychosomatic hospital. There was no significant difference between the two groups with respect to their duration of treatment. The socio-demographic data from both groups are reproduced in Table 1, and the most frequent psychiatric diseases in Table 2. The two groups were comparable in light of their socio-demographic data, psychiatric diagnoses and initial assessments with SCL-90.R (Table 4).

Table 3 shows the changes on two of three STEP scales. Fig. 1 illustrates the course of the K scale (clarification perspective) on STEP. The linear mixed-effects model showed a significant difference in the average time course in two of three STEP scales (Table 3). There were likewise significant differences between both groups on the VEV [MFG ($n = 58$): VEV = 230; CG ($n = 55$): VEV = 210; $p < 0.001$]. In Table 4, the differences between both groups on the SCL-90-R are presented.

4. Discussion

The comparison of both groups showed a significantly higher assessment of individual therapy (STEP) by patients treated during the time that the PiTs regularly took part in Zen meditation. Following their therapy sessions, the patients in the MFG experienced their progress in understanding of their own psychodynamics, difficulties, and goals as superior. They also made better assessments of their progress in overcoming their difficulties and symptoms, and in developing new behaviours and transferring them into daily life [6,8].

Upon discharge, the subjectively perceived results from the entire inpatient treatment (VEV) were assessed significantly more highly by the MFG patients than the CG [19].

The MFG showed a significantly greater rate of change than did the CG on the GSI and five SCL-90-R scales: Somatization (SOM), Obsessiveness (O-C), Anxiety (ANX), Anger/Hostility (HOS), Phobic Anxiety (PHOB) and Psychoticism (PSYC).

Table 2
Most frequently diagnosed psychiatric diseases in both groups

	Reaction to severe stress, and adjustment disorders	Mood disorders	Specific personality disorders	Somato-form disorders	Anxiety disorders	Substance abuse	Obsessive-compulsive disorders
MFG $n = 58$	20 (34.5%)	23 (39.6%)	18 (31.0%)	14 (24.1%)	8 (13.4%)	3 (5.2%)	2 (3.4%)
CG $n = 55$	20 (36.4%)	22 (40.0%)	17 (30.9%)	12 (21.8%)	7 (12.7%)	1 (1.8%)	2 (3.6%)

Abbreviations: MFT – the patient group that was treated during the phase in which the therapists practiced Zen meditation; CG – control group (patients who were treated during the phase before Zen meditation began).

Table 3
Changes on all three scales (*T*-values) of the Session questionnaire for general and differential individual psychotherapy (STEP)

	Clarification perspective − K*	Problem solving perspective − P*	Relationship perspective − B*
Initial MFG $n = 58$	47.3 ± 11.5	44.5 ± 12.4	52.2 ± 15.2
CG $n = 55$	48.4 ± 10.1	46.3 ± 11.2	53.9 ± 15.7
Final MFG $n = 58$	71.9 ± 10.2	71.3 ± 10.5	72.6 ± 10.7
CG $n = 55$	57.9 ± 9.5	57.1 ± 9.8	63.1 ± 14.8
DF	15.1	16.0	10.9
95%-CI	6.9;25.1	0.2;20.2	−2.1;15.7
p	<0.01	=0.044	=0.51

*Mean value ± standard deviation. Abbreviations: MFT − the patient group that was treated during the phase in which the therapists practiced Zen meditation; CG − control group (patients who were treated during the phase before Zen meditation began); DF − difference in change between the two groups; 95%-CI −95% confidence interval; *p* − probability of error (significance of the treatment-effect within the linear mixed-effects model).

The results possibly indicate that the promotion of mindfulness in psychotherapists in training can positively affect the course of therapy and the treatment results in their patients. Furthermore, the fact that effects can also be demonstrated on the patients' symptomatic level, on the relatively sensitive VEV and even on the SCL-90-R, speaks for a possible special efficacy of this intervention: at any rate, the patients were treated not only with individual psychotherapy, but also with numerous other therapeutic tasks, such as art and music group therapy, indicative group therapy, sports therapy, kinesitherapy, and physical therapy, etc.

Psychotherapeutic research has long neglected the ''psychotherapist as an instrument'' in favour of psychotherapeutic techniques (cf. [3]). Our study with psychotherapists in training, who are completing their training program to be licensed as psychological psychotherapists, showed that the directed promotion of mindfulness could achieve positive affects in the treatment of patients. Hence, the inclusion of such methods in the training of psychotherapists could have a generally positive effect on the patients' treatment. Thus, such methods could conceivably become a recommended component of the psychotherapist's education.

This study had however several methodological limitations. First, the control was merely carried out through the ''non-Zen phase''. In this case, because the non-Zen phase occurred before the Zen phase, the so-called learning effect experienced by the PiTs in the intervening time period could have contributed to a greater difference between the two treatment groups. Second, the PiTs underwent Zen training of only a relatively short duration. Whether the potency of the effect increases or decreases with time needs to be researched. In addition, the Zen training here was not tested against a placebo intervention.

Additional randomized trials, in which larger numbers of psychotherapists in training participate, as well as already experienced therapists, are necessary to test the extent to which our results can be generalized.

Table 4
Changes on all nine scales (*T*-values) and the Global Severity Scale (GSI) of the Symptom Checklist (SCL-90-R)

	SOM*	O-C*	I-S*	DEP*	ANX*	HOS*	PHOB*	PAR*	PSY*	GSI*
Initial MFG $n = 58$	68.9 ± 10.5	70.9 ± 12.4	66.1 ± 10.9	68.6 ± 15.7	69.7 ± 9.7	68.1 ± 10.2	68.1 ± 10.5	64.5 ± 13.0	64.1 ± 10.2	72.8 ± 7.9
CG $n = 55$	67.2 ± 12.8	68.4 ± 12.3	63.2 ± 13.7	68.9 ± 18.1	68.3 ± 8.9	66.4 ± 9.5	70.2 ± 11.8	65.8 ± 11.7	59.3 ± 12.0	70.0 ± 10.9
Final MFG $n = 58$	50.9 ± 10.3	47.8 ± 12.0	49.1 ± 10.5	50.8 ± 13.5	51.6 ± 7.9	46.7 ± 10.9	51.1 ± 11.2	49.5 ± 10.7	51.2 ± 9.1	48.1 ± 9.2
CG $n = 55$	58.8 ± 11.9	56.2 ± 12.2	54.6 ± 12.6	61.4 ± 11.9	59.1 ± 11.7	57.8 ± 9.9	56.8 ± 14.8	54.6 ± 11.0	57.5 ± 9.5	57.9 ± 11.7
DF	9.6	10.9	8.6	10.3	8.9	15.5	3.6	3.8	11.1	12.6
95%-CI	5.7;15.3	8.9;16.2	−2.7;9.5	−4.1;17.4	2.6;18.5	7.9;22.3	2.2;8.9	−4.1;15.6	3.2;23.5	9.1;21.7
p	<0.01	<0.01	=0.52	=0.21	=0.031	=0.019	=0.048	=0.29	=0.035	<0.01

*Mean value ± standard deviation. Abbreviations: MFT − the patient group that was treated during the phase in which the therapists practiced Zen meditation; CG − control group (patients who were treated during the phase before Zen meditation began); DF − difference in change between the two groups; 95%-CI − 95% confidence interval; *p* − probability of error (significance of the treatment-effect within the linear mixed-effects model); SOM − somatization; O-C − obsessiveness; I-S − insecurity in social contact; DEP − degree of depression; ANX − anxiety; HOS − aggressiveness/hostility; PHOB − phobic anxiety; PAR − paranoid thinking; PSY − psychoticism; GSI − Global Severity Index.

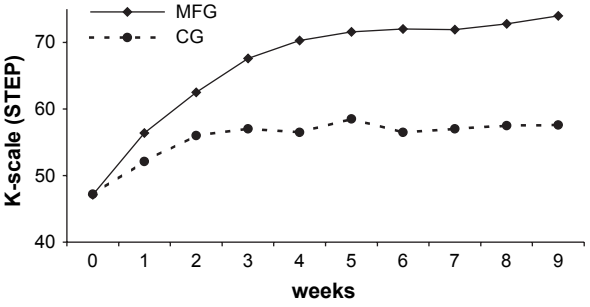

Fig. 1. Course of K-scale (clarification perspective) of STEP.

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