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ORIGINAL PAPER

(How) Do Therapists Use Mindfulness in Their Clinical Work? A Study on the Implementation of Mindfulness Interventions

Johannes Michalak[1] · Kira Steinhaus[1] · Thomas Heidenreich[2]

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Abstract
Mindfulness-based and mindfulness-informed programs such as mindfulness-based stress reduction (MBSR), mindfulness-based cognitive therapy (MBCT), or dialectic behavior therapy (DBT) have gained widespread attention over the past few decades. One way of bringing mindfulness programs into clinical practice is via a planned implementation process where empirically validated interventions are disseminated and implemented on a large scale. However, besides this planned process, it can be observed that mindfulness has diffused into current society as well as into psychotherapy practice in an unsystematic way. To date, however, little is known about the proliferation of mindfulness in clinical practice. We investigated a randomly drawn sample of German psychological psychotherapists with regard to their use of mindfulness in clinical practice using a web survey. Additionally, the psychotherapists' personal mindfulness practice was assessed. The overwhelming majority (82%) of psychotherapists reported using mindfulness practices at least sometimes with their patients. Programs such as MBSR and MBCT are rarely applied. Rather, therapists use individual mindfulness practices in an eclectic way. Our results show that in addition to investigating the implementation of empirically underpinned mindfulness-based programs, mindfulness researchers should also investigate the ways in which mindfulness-based practices have diffused into clinical work with individuals. Guidelines on best practice for this work will support the future integrity of mindfulness programs.

Keywords Mindfulness · Implementation · MBCT · MBSR

Introduction

During the past few decades, there has been flourishing interest in mindfulness in the field of psychotherapy. This interest was fueled by the development and empirical investigation of standardized *mindfulness-based* and *mindfulness-informed* programs (Crane et al. 2017). For mindfulness-based programs, systematic training in formal and informal mindfulness meditation practices is central. The most prominent mindfulness-*based* approaches are the mindfulness-based stress reduction (MBSR, Kabat-Zinn 2013), an 8-week group program targeting various physical and psychological conditions, and the mindfulness-based cognitive therapy (MBCT, Segal et al. 2013), an 8-week group program originally developed for relapse prevention in depression, and which was a development from MBSR. Mindfulness-*informed* approaches share several underpinning theoretical ideas with mindfulness-based approaches and include mindfulness practices. The most prominent mindfulness-informed approach is the dialectic behavior therapy (DBT, Linehan 2015) for borderline personality disorder, combining group-based skills training with individual treatment. However, mindfulness-informed approaches usually do not apply longer mindfulness practices (e.g., body scan), and they differ in focus. While DBT aims to improve mood regulation, mindfulness-based approaches such as MBSR or MBCT also address other processes such as fostering experiential awareness.

Mindfulness-based and mindfulness-informed approaches implement a number of different mindfulness practices that vary in duration from very short (e.g., in DBT) to up to about 45 min (such as the body scan and breath meditation in MBSR and MBCT) and also vary in the intensity of practice required during sessions and at home. Whereas MBCT and MBSR, for

✉ Johannes Michalak
johannes.michalak@uni–wh.de

[1] Department of Psychology and Psychotherapy, Witten/Herdecke University, Alfred-Herrhausen-Straße 50, 58448 Witten, Germany

[2] Esslingen University of Applied Sciences, Esslingen am Neckar, Germany

example, recommend daily meditation practice for up to 45 min, in DBT, patients are usually asked to do much shorter mindfulness practices.

DBT has shown moderate global effects and a moderate effect size for suicidal and self-injurious behaviors in borderline personality disorder (Kliem et al. 2010) and MBCT and MBSR show medium to high effects in the reduction of psychopathological symptoms such as anxiety and depression across a variety of settings and disorders (Khoury et al. 2013; Hofmann et al. 2010). Following strict criteria, MBSR can be considered as empirically well established for cancer and MBCT for relapse prevention in depression (Dimidjian and Segal 2015). However, as Dimidjian and Segal (2015) critically remarked, for many other disorders the evidence base can only be regarded as promising when strict evidence-based criteria are applied. Research on the effectiveness (in addition to efficacy) under routine conditions outside research settings is scarce, as is the research on the dissemination and implementation of MBSR or MBCT. Dimidjian and Segal concluded that the dissemination and implementation of well-established mindfulness-based interventions should be a major focus of future work in the area.

In addition to the established empirically tested mindfulness-based curricula, there is now increasing interest in the integration of mindfulness into individual psychotherapy (Germer 2016). Therapists may personally practice mindfulness meditation or informal mindfulness to cultivate a more mindful presence in psychotherapy (for the information on the beneficial effects of therapist mindfulness practice, see Grepmair et al. 2007), or use a theoretical frame of reference informed by insights derived from a mindfulness practice or Buddhist psychology. Moreover, they can explicitly teach patients how to practice mindfulness in a number of different forms. For example they can teach mindfulness practices without embedding them in an MBSR/MBCT or DBT program.

To date, research on implementation of mindfulness has focused on standardized group formats. In a high-level narrative review of MBCT implementation studies, Rycroft-Malone et al. (2017) concluded that MBCT implementation is fragmentary. Therefore, some studies have investigated facilitating conditions and barriers to the implementation of structured programs like MBCT (Crane and Kuyken 2013; Rycroft-Malone et al. 2017), MBSR (Edwards et al. 2014), or DBT (Carmel et al. 2014; Swales et al. 2012).

However, except for the study by Rycroft-Malone et al. (2017) investigating implementation of MBCT in the UK health service, little is known about the current implementation of mindfulness-based or mindfulness-informed approaches in different health systems. Since mindfulness has attracted much attention in clinical research over the past decade and publications on the clinical applications of mindfulness have proliferated, one might assume that the use of mindfulness in current psychotherapy would be diverse with respect to practices used, formats of delivery, and target areas. For example, Rycroft-Malone et al. (2017) have shown that in the UK, the National Health Service (NHS) services have typically adapted MBCT to their contexts and its integration into care pathways is also highly variable. In the qualitative interviews they conducted, many participants (i.e., NHS key stakeholders) reported that they do not apply MBCT exclusively in strict accordance with the NICE recommendation (i.e., MBCT for recurrent depression), but widen the inclusion criteria for example to patients with anxiety disorders or even open participation to everyone where it is felt that the client would benefit.

While the studies on implementation described above have mostly focused on more or less standardized group formats like MBCT or MBSR, it is of high interest to study the use of mindfulness in routine psychotherapy practice where mindfulness implementation might differ from the standardized formats. As most outpatient therapy is delivered in an individual setting, it would be important to investigate the use of mindfulness practices in this setting. To our knowledge, little is known about the use of mindfulness in current outpatient psychotherapy and studies reporting on the use of mindfulness-based interventions in individual treatment formats have only appeared recently (Conner and White 2017, Luberto et al. 2017, Schroevers et al. 2015, Tovote et al. 2015, Wupperman et al. 2015). It could be speculated that mindfulness would be diffused into clinical practice in diverse formats. Beyond delivering comprehensive MBCT, MBSR, or DBT programs, it was expected that many therapists would use isolated elements and practices stemming from these programs and integrate them into their individual therapy.

Another issue that is especially important for the implementation of mindfulness is that most mindfulness-based programs stress the importance of therapists' personal mindfulness in the delivery of mindfulness-based interventions. Since the introduction of MBSR in 1990, mindfulness teachers have stressed the importance of personal mindfulness experience for instructors. For example, Segal et al. (2002, p. 422) require MBCT teachers to have an ongoing commitment to a personal daily formal mindfulness regimen. To our knowledge, no empirical findings are available on the personal use of mindfulness practices by therapists. Because therapists in clinical reality are under a high workload and many might apply mindfulness practices without having established a regular personal mindfulness regime, it would be possible that many therapists would not have the level of daily formal personal mindfulness practice that is often recommended.

Thus, the major aim of the present study was to investigate in what ways mindfulness programs and techniques are delivered in outpatient clinical practice. We were interested in the proportion of therapists who report that they use mindfulness

in their clinical work and in the way they implement mindfulness practices. Because of the current popularity of mindfulness, it was expected that a relatively high proportion of therapists would use mindfulness practices. Moreover, it was anticipated that most therapists would integrate isolated mindfulness practices into their clinical work rather than deliver comprehensive formats like MBSR or MBCT. Also, we investigated the extent of personal mindfulness experiences and ongoing meditation practice among therapists. It was expected that some therapists would not be carrying out the ongoing personal mindfulness practice that is recommended in mindfulness-based programs. Finally, it was explored whether sex, age, or therapeutic orientation of therapists is associated with the degree of integration of mindfulness practices in their clinical work or with the extent of their personal mindfulness practices.

Method

Participants

The study was conducted in Germany where adult psychotherapy can be delivered by MDs and trained psychologists ("psychological psychotherapists"). Practicing psychotherapy in Germany is regulated by a specific law ("Psychotherapy law") that has been in force since 1999. Psychological psychotherapists are members of a psychotherapy chamber (Psychotherapeutenkammer) that watches over professional conduct. Health insurance compensates for costs of psychotherapy when it is administered by psychotherapists who have a license to practice psychotherapy. Currently, the following treatment approaches are reimbursed by the public health insurance system when administered by psychological psychotherapists: psychoanalysis, psychodynamic psychotherapy, and cognitive behavior therapy (CBT). Psychotherapists in Germany must be trained in one of these treatment approaches to be licensed. They primarily work in individual treatment settings, but can also offer reimbursed group therapies.

For therapist recruitment, we collaborated with the "Kassenärztliche Vereinigung Nordrhein," the professional body responsible for therapists working in practice in western parts of Germany. At the time this study began, the Kassenärztliche Vereinigung Nordrhein comprised 10,734 psychotherapists (roughly 10% of the German psychotherapist population). These therapists have demographic characteristics comparable to the entire population of German psychotherapists.

Our aim was to get a sample of 100 therapists. Given the usual response rate of approximately 30% in web surveys (see Shih and Fan 2008), we invited 400 randomly selected therapists from the population of therapists (10,734) from the Kassenärztliche Vereinigung Nordrhein to participate. A computer algorithm, which gave each therapist the same probability of being chosen, was used to draw the sample. Because the Kassenärztliche Vereinigung Nordrhein only consented to provide information on postal addresses of therapists, we invited the therapists by regular mail to complete our web survey by providing them with a link to an online portal. We did not have any prior information on their use of mindfulness practices. After 3 weeks, therapists received a reminder to participate via e-mail or telephone. Of the 400 randomly chosen therapists who were invited, 64 participated in the survey. This corresponds to a response rate of 16%. However, two participants had to be excluded, because their answers to the survey were implausible.

The study was conducted in accordance with the Declaration of Helsinki and was approved by the local Ethics Committee of Witten/Herdecke University, Germany. Participation in the study was voluntary and data were gathered anonymously.

Procedure

Of the 64 therapists participating in the survey, 63 used the online portal to fill out the assessment of mindfulness practices used in the therapy and the assessment of their own personal mindfulness practice. Because of inexperience with the Internet, we sent one therapist a paper-and-pencil version of the questions used in the online survey.

Measures

Assessment of Mindfulness Practices Used in the Therapy As we were not aware of a specific instrument to assess the frequency and type of mindfulness practices used in routine clinical work, we developed new items related to the implementation of mindfulness practices. We pretested the survey items with three graduate students of the clinical psychology and psychotherapy program at Witten/Herdecke University. They evaluated the comprehensibility and face validity of the survey items and, if necessary, items were modified. In the final version, we asked the therapists: (1) Do you integrate mindfulness practices into your psychotherapeutic work with patients? (yes/no); (2) In what proportion of cases do you integrate mindfulness practices? (0–100%); (3) What kind of mindfulness practices do you apply in psychotherapy? (therapists rated whether they use each of the following eight central mindfulness practices from MBSR, MBCT, or DBT: "body scan," "breathing meditation/sitting meditation," "Yoga/Qi Gong," "raisin exercise," "walking meditation," "informal mindfulness practices," "self-soothing with the five senses," "other mindfulness practices from DBT"); (4) Do you offer MBSR or similar groups? (yes/no); (5) How regularly do you use mindfulness practices with those patients with whom you practice mindfulness? ("every session," "often [at least

every second session]", "occasionally"); and (6) When you administer mindfulness practices, how long are the practices on average? (from "less than 2 min" to "more than 40 min").

Assessment of Therapists' Personal Mindfulness Practice Again, we were not aware of instruments assessing psychotherapists' personal mindfulness practice and thus constructed new items. In addition to the type of therapists' personal mindfulness practice, we were also interested in their motivation to practice mindfulness and the tradition in which their mindfulness practice was rooted: (1) Do you personally practice meditation? (yes/no); (2) From which tradition? (seven different traditions could be chosen: "MBSR/MBCT," "DBT," "ACT," "Zen meditation," "Tibetan Buddhism," "Osho tradition," "Vipassana"); (3) What is your motivation to practice meditation? ("health," "religious or spiritual," "stress reduction"); (4) How often do you practice mindfulness practices? (seven-point scale from "several times a day" to "less than once a month"); (5) How long on average is your practice session? (seven-point scale from "less than 2 min" to "more than 40 min"); and (6) What kind of mindfulness do you personally practice? (five different mindfulness practices were presented ["body scan," "sitting meditation," Yoga/Qi Gong," "informal mindfulness practices," "breathing space"]).

Data Analyses

We checked for differences in demographic characteristics between participating therapists and the therapist population of the Kassenärztliche Vereinigung Nordrhein using chi-square tests. Moreover, we analyzed whether demographic characteristics were associated with the rate of integrating of mindfulness in therapy and therapists' personal mindfulness practice using chi-square tests. For all tests, the significance level was set to $p < .05$.

Results

Descriptive statistics of our sample are displayed in Table 1. Chi-square tests showed no significant differences between therapists participating in the study and the population of therapists of the Kassenärzlichen Vereinigung Nordrhein from which they were drawn (all ps $> .05$).

Integration of Mindfulness Practices into Psychotherapeutic Practice

Because the online survey forced participants to answer all questions before they could proceed, we had no missing data. Of the 62 respondents 51 (82%) reported that they integrate mindfulness practices into their therapeutic work. We found no significant differences in rates of mindfulness integration between female and male therapists (number of therapists integrating mindfulness: 35 female therapists [87.5%] and 16 male therapists [72.7%], $\chi^2 = 2.12$, df = 1, $N = 62$, $p = .15$) or between different age groups (number of therapists integrating mindfulness: < 30 years, 1 therapist [50%]; 31–40 years, 10 therapists [83.3%]; 41–50 years, 13 therapists [86.6%]; 51–60 years, 13 therapists [72.2%]; > 60 years, 14 therapists [93.3%], $\chi^2 = 4.14$, df = 4, $N = 62$, $p = 39$). However, psychotherapists of different orientations differed significantly in their rate of mindfulness integration: while 17 of 17 (100%) psychodynamic and 33 of 39 (84.6%) CBT therapists reported using mindfulness, only 1 of the 6 (16.6%) psychoanalysts in our sample reported using mindfulness ($\chi^2 = 21.50$, df = 2, $N = 62$, $p < .001$).

Of the 51 therapists integrating mindfulness into their clinical work, only 5 (10%) reported delivering group-based mindfulness interventions such as MBSR. Correspondingly, most of the psychotherapists integrating mindfulness did so in an individual psychotherapy setting. Figure 1 displays the number and percentage of therapists ($N/51 \times 100$) using different mindfulness practices. The body scan was the practice most frequently used by therapists. Moreover, informal mindfulness practices, breathing meditation, and self-soothing with five senses were used by more than 50% of therapists who used mindfulness in their clinical work.

With regard to the percentage of patients with whom mindfulness practices were employed, 6 therapists (11.8%) reported using mindfulness with up to 10% of their patients, 10 (19.6%) reported using it with 11 to 20% of their patients, 10 (19.6%) reported using mindfulness with 21 to 30% of their patients, 5 (9.8%) reported using mindfulness with 31 to 40% of their patients, 1 (2.0%) reported using mindfulness with 41 to 50% of their patients, 6 (11.8%) reported using mindfulness with 51 to 60% of their patients, 2 (3.9%) reported using mindfulness with 61 to 70% of their patients, 2 (3.9%) reported using mindfulness with 71 to 80% of their patients, 4 (7.8%) reported using mindfulness with 81 to 90% of their patients, and 5 (9.8%) reported using mindfulness with 91 to 100% of their patients. Overall, employing mindfulness practices with up to 30% of patients seemed to be the norm, while nearly one in ten reported employing mindfulness practices with nearly every patient.

Among therapists who used mindfulness at all, 1 (2%) reported using mindfulness practices "every session" and 9 (18%) reported using mindfulness practices frequently (at least one out of two sessions) while 41 (80%) reported using mindfulness occasionally (less than one out of two sessions). Figure 2 displays the average duration of practice with patients. Most therapists reported using practices for an average duration of 11 to 20 min.

Table 1 Descriptive statistics

	Therapists participating in the survey ($n = 62$)	Therapist population KV-NR ($n = 10.734$)	Chi-square
Female sex, *n* (%)	40 (64.5%)	7889 (73.5%)	$\chi^2 = 2.54$, df = 1, ns
Age, *n* (%)			$\chi^2 = 6.12$, df = 4, ns
< 30 years	2 (3.2%)	107 (1.0%)	
31–40 years	12 (19.4%)	1460 (13.6%)	
41–50 years	15 (24.2%)	2372 (22.1%)	
51–60 years	18 (29.0%)	4143 (38.6%)	
> 60 years	15 (24.2%)	2651 (24.7%)	
Therapeutic orientation, *n* (%)			$\chi^2 = 0.53$, df = 1, ns
Behavioral	39 (62.9%)	7224 (67.3%)	
Psychodynamic/psychoanalytic	23 (37.1%)	3510 (32.7%)	

KV-NR Kassenärztliche Vereinigung Nordrhein, *ns* non-significant

Psychotherapists' Personal Mindfulness Practice

Of the 62 therapists, 43 (69%) reported personal mindfulness practice. We found no significant differences in rates of personal mindfulness practice between female and male therapists (29 female therapists [72.5%] and 14 male therapists [63.6%], $\chi^2 = 0.53$, df = 1, $N = 62$, $p = .47$) or between different age groups (< 30 years, 1 therapist [50%]; 31–40 years, 7 therapists [58.3%]; 41–50 years, 10 therapists [66.6%]; 51–60 years, 13 therapists [72.2%]; > 60 years, 12 therapists [80.0%], $\chi^2 = 1.96$, df = 4, $N = 61$, $p = .74$). Therapists of different therapeutic orientations, however, differed in their personal mindfulness practice: 15 (88.2%) psychodynamic and 28 (71.8%) CBT therapists reported personal mindfulness practice, but none of the psychoanalysts reported practicing mindfulness ($\chi^2 = 16.54$, df = 2, $N = 62$, $p < .001$).

Among the therapists reporting personal practice, most practiced according to MBSR/MBCT ($N = 18$, 42%) or Zen ($N = 30$, 30%). Practice according to other mindfulness approaches/meditation traditions was reported less frequently: ACT ($N = 7$, 16%), Vipassana ($N = 5$, 12%), DBT ($N = 5$, 12%), Tibetan ($N = 2$, 5%), and Osho (N = 2, 5%). Fourteen therapists (33%) reported practicing according to other traditions not included in our list of seven traditions.

In their own mindfulness practice, therapists preferred informal mindfulness practices ($N = 36$, 84%) followed by the body scan and mindfulness in motion (both $N = 26$, 61%), breathing space ($N = 23$, 54%), and sitting meditation ($N = 17$, 40%). With regard to frequency, of the therapists who practiced mindfulness themselves, 10 therapists (23%) did so at least once a day, while 16 therapists (37%) reported mindfulness practices at least twice a week. Thirteen (30%)

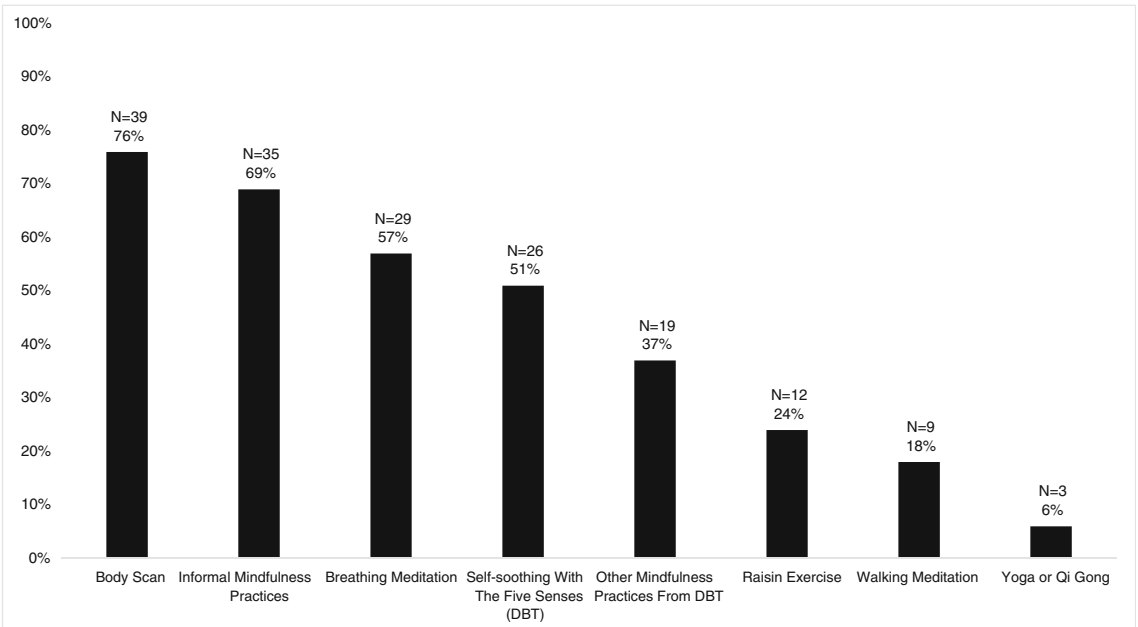

Fig. 1 Number and percentage of therapists using different mindfulness practices

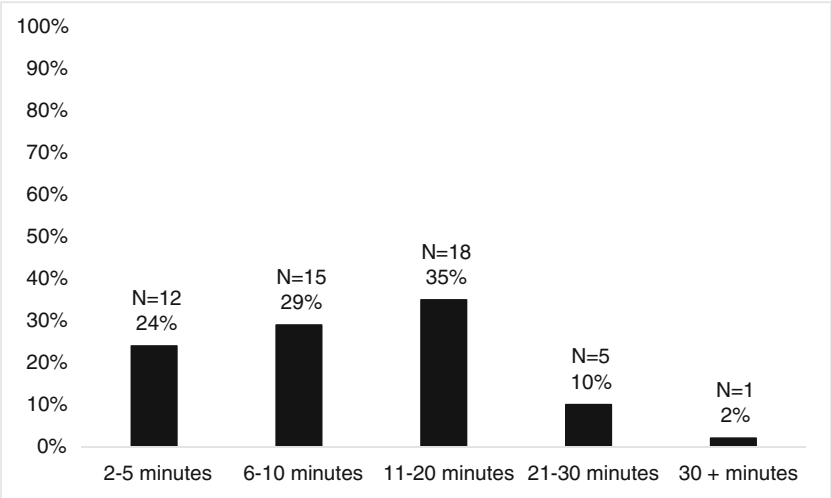

Fig. 2 Average mindfulness practice time in therapy. Figure displays the number and percentage of therapists reporting the average practice time

reported practicing at least twice a month or less frequently. The average duration of personal mindfulness sessions was rather low: 17 therapists (40%) reported practicing for 10 min or less, while 23 therapists (54%) reported practicing for between 11 and 30 min. Only three therapists (7%) reported practicing for longer than 30 min. The motivations for personal practice were coping with stress ($N = 31$, 72%), health ($N = 25$, 58%), and religious reasons ($N = 16$, 37%).

As expected, nearly all (42 out of 43 [97%]) of the therapists who reported personal mindfulness practice also included it in therapy. However, 9 of 19 (47%) therapists who did not personally practice mindfulness included it in therapy.

Discussion

One major aim of the present study was to investigate how mindfulness is implemented by therapists working in regular clinical practice. In our sample of German psychotherapists working in clinical practice, we found a high rate of over 80% of therapists integrating mindfulness into their therapeutic work. Most therapists do not deliver mindfulness in a format that research on mindfulness has focused on (i.e., 8-week MBSR or MBCT programs), but instead use mindfulness in a much more eclectic way by applying isolated practices from MBSR or MBCT (e.g., body scan) with practice times shorter than in MBSR/MBCT. The mindfulness practices are usually practiced with up to 30% of patients. Our results are in accordance with the finding of Rycroft-Malone et al. (2017) which showed that in the UK, services have adapted MBCT to their contexts and that the integration of MBCT into care pathways is highly variable. Moreover, Rycroft-Malone et al.'s finding that implementation of MBCT is fragmentary corresponds with our data showing that a relatively small number of therapists offer standardized MBSR/MBCT groups. However, our results show that in contrast to the use of MBSR/MBCT, the use of adapted versions of various mindfulness practices in individual therapy has widely spread throughout the psychotherapeutic community.

Mindfulness is especially used by psychodynamic and CBT therapists. The fact that a very high proportion of psychodynamic therapists apply mindfulness might be attributable to a long linkage of the psychodynamic tradition to Buddhism, starting with Jung's (1939, 1949) interest in Zen Buddhism to more recent approaches integrating Buddhist elements in psychodynamic treatment (e.g., Epstein 1995; Safran and Muran 2000).

A further major aim of the present study was to investigate the personal mindfulness practice of psychotherapists. We found that over two thirds of the therapists, who responded to our survey, reported personal mindfulness practice. As expected, even therapists, who do not personally practice, applied mindfulness practices in their psychotherapies. Therapists most often personally use mindfulness practices that stem from the MBSR program (e.g., the body scan). Some also practice approaches that are more spiritually oriented (Zen, Vipassana).

We cannot be certain to what extent our results are generalizable beyond the German health care system. Although we are not aware of any factors that might contribute to a higher use of mindfulness practices in German psychotherapists compared to psychotherapists working in other countries, more health service research is needed that can tell us more precisely whether the relatively high rate of integration we found among German psychotherapists and the methods of integration reported by the therapists in our sample can be generalized to other countries.

It should be noted that our results are preliminary and several limitations of the study should be recognized. The therapists rated their integration of mindfulness practices retrospectively across many sessions. In the future research, the assessment of mindfulness integration could be improved by giving therapists diaries to log their use of mindfulness practices after

every treatment session, or researchers could use video or audio tapes of treatment sessions to rate the type, quantity, and quality of mindfulness practice. Of particular interest would be to investigate the relationship between type, quantity, and quality of mindfulness integration and treatment outcome (e.g., symptom reduction). There is some preliminary evidence that mindfulness has beneficial effects on therapists' qualities such as empathy and counseling skills (for a review, see Davis and Hayes 2011) and that mindfulness training for therapists affects treatment outcome in individual psychotherapy (Grepmair et al. 2007). Moreover, there is some promising but preliminary data on the efficacy of mindfulness delivered in individual treatment formats (Conner and White 2017, Luberto et al. 2017, Schroevers et al. 2015, Tovote et al. 2015, Wupperman et al. 2015). However, more rigorous research is needed that investigates the effectiveness of the type of integration therapists typically use (i.e., integrating isolated mindfulness practices in contrast to conducting structured programs like MBSR or MBCT). Another limitation of our study is that there were some differences in the items we developed to assess practices used in treatment and to assess therapists' personal practice (i.e., "walking meditation" was only included in the list of practices used in treatment whereas "3 min breathing space" was only used to assess personal practice of therapists). Further, due to the lack of a coherent theory concerning the use of mindfulness in individual therapy, we were unable to derive the items from a theoretical framework.

The low response rate of 16%, compared to usual response rates of approximately 30% reported in other web surveys (Shih and Fan 2008), is a further limitation. This low response rate might be attributable to the fact that therapists in clinical reality are under a high workload. Moreover, because the therapists were invited by regular mail, they were required to manually enter the survey URL into their web browser, which may have been a barrier to responding.

Our final sample had a comparable gender, age, and therapeutic orientation distribution as the population from which it was drawn (psychological psychotherapists from the Kassenärztliche Vereinigung Nordrhein). However, since salience of topic is a factor that influences response rate in web surveys (Fan and Yan, 2010), it is highly likely that therapists with a personal interest in mindfulness were more willing to take part in our survey and therefore overrepresented in our sample. Nevertheless, if we take the lowest possible estimate, in which none of the non-responders (84%) employ mindfulness, we still find that at least 13% (51/400) employ mindfulness, whereas only 1% administer MBSR or comparable groups.

If we assume that the true rate of integration of mindfulness ranges between this conservative estimate of 13% and the 82% of our sample, we can conclude that a considerable number of therapists integrate mindfulness into their work. One important question is whether the type of implementation we found in our study is of benefit to patients or not. Our data show that the approaches developed over the past few decades and the empirical findings on mindfulness-based programs seem to have convinced many psychotherapists to integrate it into their practice. The method of integration is probably shaped by the many constraints practicing psychotherapists face. At a personal level, many therapists work under high time pressure making it demanding to develop personal mindfulness practice that corresponds to the recommendations formulated by the developers of MBSR/MBCT (i.e., regular practice of more extended formal mindfulness practices). At a therapeutic level, many therapists probably desire to integrate and harmonize mindfulness principles and practices with the therapeutic principles and techniques they are trained in that in some cases have been used for decades, and to adapt them to the conditions of their work (reimbursement conditions, session schedule etc.).

On the other hand, there might be a specific danger associated with the heightened interest in mindfulness. As Djimidjian and Segal (2015) have pointed out, there is the danger of the "implementation cliff" (Weisz et al. 2014), the "voltage drop", that often occurs as interventions move through the clinical science process, or the "implementation limbo", in which resource constraints set the bar for training providers at progressively lower levels. These factors might result in the application of diluted forms of mindfulness practices in clinical reality. The fact that our data show that therapists use mindfulness interventions without practicing personal mindfulness signals this danger. In the long run, some therapists may use shallow forms of mindfulness without coming into contact with its deeper potential or many researchers may integrate a light version of mindfulness components as parts of multimodal treatment manuals. One possible future scenario could be that many therapists believe that they are using mindfulness, but in practice, they are missing the actuality of it.

In view of these potentials and dangers associated with the diffusion of mindfulness into therapeutic practice, we think that the mindfulness field should be aware that a considerable proportion of therapists use mindfulness in ways that do not align with formats with a relatively strong evidence base (i.e., MBSR/MBCT, DBT). Our critical stance is in line with a recent paper published by renowned mindfulness experts (Van Dam et al. 2017) who noted that "..as mindfulness has increasingly pervaded every aspect of contemporary society, so have misunderstandings about what it is, whom it helps, and how it affects the mind and brain. At a practical level, the misinformation and propagation of poor research methodology can potentially lead to people being harmed, cheated, disappointed, and/or disaffected" (Van Dam et al. p. 2f). We strongly argue that it is necessary to

more closely examine the day-to-day implementation of mindfulness into psychotherapy.

At least two kinds of responses to this situation are possible. From the perspective of the empirically supported treatment movement (Chambless and Hollon 1998), one possible response could be to reject all uses of mindfulness-based practices that are not based on structured programs that have been validated in rigorous empirical studies. An argument in favor of this response is that the integration of mindfulness could be especially problematic, if therapists fail to use effective therapeutic strategies such as exposure due to an unbalanced focus on mindfulness practices. From this perspective, attempts to disseminate and implement the empirically validated delivery formats for mindfulness programs should be strengthened (see for example the Mindful Nation UK initiative of the Mindfulness All-Party Parliamentary Group 2015). On the other hand, discouraging the eclectic integration of mindfulness might squander its potential within individual therapy and other settings beyond the established 8-week programs.

Alternatively, practice guidelines could be developed to assist practitioners and patients to make decisions about the integration of mindfulness. As stated above, Germer et al. (2016) proposed that mindfulness can be integrated into psychotherapy in three ways: therapist mindfulness (therapists' own practice of meditation to be more "mindful" and present with clients); applying Buddhist psychology and mindfulness theory to clinical work; and applying mindfulness practices in therapy. The guidelines could be informed by the large body of empirical findings on mindfulness-based and mindfulness-informed programs. However, since specific evidence on the integration of mindfulness into different treatment modalities (individual psychotherapy, inpatient treatment) and into different therapeutic approaches (for example, into standard CBT or psychodynamic treatment) is sparse or non-existent, the guidelines would need to be largely based on a consensus of expert researchers and clinicians.

Practice guidelines on mindfulness should cover the following aspects: (a) diagnoses/clinical problems for which integration of mindfulness could be useful. Recurrent depression and cancer are diagnoses for which the efficacy of standardized group-based programs like MBSR or MBCT has been empirically established. Therefore, it seems plausible that individual format applications might also be useful. Moreover, more transdiagnostic processes like unconstructive repetitive thoughts (Watkins 2008, 2016) involved in many psychological disorders might be reasonable targets for mindfulness practices in individual therapy, because mindfulness addresses core maintaining mechanisms of repetitive thinking; (b) guidelines for appropriate case formulation (e.g., mindfulness training could address key maintaining factors of patient's problems such as rumination or worry); (c) types and optimal duration of mindfulness practices in various settings. For pragmatic reasons, in individual psychotherapy, the duration of mindfulness practices often has to be shorter than in group-based programs. However, even in individual therapy, patients should from time to time have the opportunity for deeper experiences through the more extensive application of mindfulness practices. In inpatient treatment, the duration should be adapted to the attentional and motivational capacities of patients; (d) appropriate examination of the experience during mindfulness practices in various settings. As other group members are absent, valuable exchange between the patients is not possible in individual therapy. Therefore, therapists might be encouraged to more intensively talk about the experiences of other patients or their own experience. Moreover, bibliotherapy or videos can be used to give the patient an impression of the range of experiences associated with mindfulness practice and the ubiquity of difficulties; (e) appropriate harmonization of the goals of mindfulness with the therapeutic goals of other interventions that are applied in a given case. For example, the CBT rationale of changing *content* of cognitions needs to be harmonized with rationale of changing *relationships* with cognitions. It could be useful to emphasize that both CBT and mindfulness approaches support a disidentification with thoughts; (f) adequate clinical qualifications of mindfulness instructors (i.e., professional qualifications in clinical practice and mental health training that includes evidence-based therapeutic approaches); and (g) adequate personal experience with mindfulness and personal practice. Therapists should at least have extended and supervised personal experience with the specific intervention (e.g., body scan) that they apply in their therapy and an ongoing commitment to personal mindfulness practice. It might be useful to develop an incremental approach that begins with minimal interventions that require minimal personal experience and mindfulness-specific skills on the part of therapists (e.g., suggesting a book on mindfulness or referring the patient to a MBSR/MBCT course) to in-depth integration using mindfulness as a central therapeutic principle and applying extensive mindfulness practices.

On the whole, our preliminary results indicate that mindfulness practices are a significant part of contemporary clinical reality. We think that this reflects an authentic interest in mindfulness in the therapeutic community and in society as a whole that many in the field would not have anticipated 20 years ago. However, there are also dangers associated with this growing interest in the therapeutic use of mindfulness. We think that the field should be aware of the promises and possible pitfalls of this development and should try to find a salutary response to it.

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Author Contributions J.M.: designed the study and wrote the paper. K.S.: collaborated with the design, executed the study, and analyzed the data. T. H.: collaborated in the writing and editing of the final manuscript.

Compliance with Ethical Standards

Conflict of Interest J. M. is the Director of the Achtsamkeitsinstitut Ruhr (an institute offering mindfulness training) and Principal Investigator of several DFG (German Science Foundation) research projects. J. M. and T. H. receive royalties from mindfulness books they have authored. Kira Steinhaus declares that she has no conflict of interests.

Ethical Statement All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study was approved by the Witten/Herdecke University institutional review board.

Informed Consent Informed consent was obtained from all individual participants included in the study.

References

Carmel, A., Rose, M., & Fruzzettti, A. E. (2014). Barriers and solutions to implementing dialectical behavior therapy in a public behavioral health system. *Administration and Policy in Mental Health and Mental Health Services Research, 41*, 608–614.

Conner, C. M., & White, S. W. (2017). Brief report: feasibility and preliminary efficacy of individual mindfulness therapy for adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*. https://doi.org/10.1007/s10803-017-3312-0.

Crane, R. S., Brewer, J., Feldman, C., Kabat-Zinn, J., Santorelli, S., Williams, J. M., & Kuyken, W. (2017). What defines mindfulness-based programs? The warp and the weft. *Psychological Medicine, 47*(6), 1–10.

Crane, R. S., & Kuyken, W. (2013). The implementation of mindfulness-based cognitive therapy: learning from the UK health service experience. *Mindfulness, 4*(3), 246–254.

Davis, D. M., & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapy-related research. *Psychotherapy, 48*, 198–208.

Djimidjian, S., & Segal, Z. V. (2015). Prospects for a clinical science of mindfulness-based intervention. *American Psychologist, 70*(7), 593–620.

Edwards, A. R., Evans, S., Aldao, A., Haglin, D., & Ferrando, S. J. (2014). Implementing a mindfulness-based stress reduction program in the community: lessons learned and suggestions for the future. *Behavior Therapist, 37*, 13–17.

Epstein, M. (1995). *Thoughts without a thinker: psychotherapy from a Buddhist perspective*. New York, NY: Basic Books.

Germer, C. K. (2016). Mindfulness: what is it? What does it matter? In C. K. Germer, R. D. Siegel, & P. R. Fulton (Eds.), *Mindfulness and psychotherapy* (pp. 3–35). New York, NY: Guilford Press.

Grepmair, L., Mitterlehner, F., Loew, T., Bachler, E., Rother, W., & Nickel, M. (2007). Promoting mindfulness in psychotherapists in training influences the treatment results of their patients: a randomized, double-blind, controlled study. *Psychotherapy and Psychosomatics, 76*, 332–338.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: a meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*(2), 169.

Jung, C. (1939). Introduction. In D. T. Suzukui (Ed.), *Die grosse Befreiung: Einführung in den Zen Buddhismus* (pp. 7–37). Leipzig: C. Weller & Co.

Jung, C. (1949). Foreword. In D. T. Suzuki (Ed.), *Introduction to Zen Buddhism*. New York, NY: Grove.

Kabat-Zinn, J. (2013). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness (revised edition)*. New York, NY: Bantam Books.

Khoury, B., Lecomte, T., Fortin, G., Masse, M., Therien, P., Bouchard, V., Hofmann, S. G., et al. (2013). Mindfulness-based therapy: a comprehensive meta-analysis. *Clinical Psychology Review, 33*(6), 763–771.

Kliem, S., Kröger, C., & Kosfelder, J. (2010). Dialectical behavior therapy for borderline personality disorder: a meta-analysis using mixed-effects modeling. *Journal of Consulting and Clinical Psychology, 78*, 936–951.

Linehan, M. M. (2015). *DBT skills training manual*. New York: Guilford Press.

Luberto, C. M., Magidson, J. F., & Blashill, A. J. (2017). A case study of individually delivered mindfulness-based cognitive behavioral therapy for severe health anxiety. *Cognitive and Behavioral Practice, 24*, 484–495.

Rycroft-Malone, J., Gradinger, F., Griffiths, H. O., Crance, R., Gibson, A., Mercer, S., . . . Kuyken, W. (2017). Accessibility and implementation in the UK NHS services of an effective depression relapse prevention programme: Learning from mindfulness-based cognitive therapy through a mixed-methods study. *Health Services and Delivery Research, 5*(14).

Safran, J. D., & Muran, J. C. (2000). *Negotiating the therapeutic alliance*. New York, NY: Guilford Press.

Schroevers, M. J., Tovote, K. A., Keers, J. C., Links, T. P., Sanderman, R., & Fleer, J. (2015). Individual mindfulness-based cognitive therapy for people with diabetes: a pilot randomized controlled trial. *Mindfulness, 6*(1), 99–110.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: a new approach to preventing relapse.* New York, NY: Guilford Press.

Segal, Z. V., Williams, J. M. G., & Teasdale, J. D. (2013). *Mindfulness-based cognitive therapy for depression: a new approach to preventing relapse*. New York, NY: Guilford Press.

Shih, T. H., & Fan, X. (2008). Comparing response rates from web and mail surveys: a meta-analysis. *Field Methods, 20*(3), 249–271.

Swales, M. A., Taylor, B., & Hibbs, R. A. (2012). Implementing dialectical behavior therapy: programme survival in routine healthcare settings. *Journal of Mental Health, 21*, 548–555.

Tovote, A., Schroevers, M., Snippe, E., Sanderman, R., Links, T., Emmelkamp, P., & Fleer, J. (2015). Long-term effects of individual mindfulness-based cognitive therapy and cognitive behavior therapy for depressive symptoms in patients with diabetes: a randomized trial. *Psychotherapy and Psychosomatics, 84*, 186–187.

Van Dam, N. T., Van Vugt, M. K., Vago, D. R., Schmalzl, L., D, S. C., A. O,. .. Meyer, D. E. (2017). Mind the hype: a critical evaluation and prescriptive agenda for research on mindfulness and meditation. Perspective on Psychological Science. doi:https://doi.org/10.1177/1745691617709589.

Watkins, E. R. (2008). Constructive and unconstructive repetitive thought. *Psychological Bulletin, 134*(2), 163–206.

Watkins, E. R. (2016). *Rumination-focused cognitive-behavioral therapy for depression*. New York, NY: Guilford Press.

Weisz, J. R., Ng, M. Y., & Nearman, S. K. (2014). Odd couple? Reenvisioning the relation between science and practice in the

dissemination-implementation era. *Clinical Psychological Science, 2*(1), 58–74.

Wupperman, P., Gintoft Cohen, M., Haller, D. L., Flom, P., Litt, L. C., & Rounsaville, B. J. (2015). Mindfulness and modification therapy for behavioral dysregulation: a comparison trial focused on substance use and aggression. *Journal of Clinical Psychology, 71*(10), 964–978.