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EDITORIAL

Implementation and Dissemination of Mindfulness-Based Interventions

Johannes Michalak[1] · Johannes Mander[2] · Thomas Heidenreich[3]

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The past few decades have seen rapidly growing interest in mindfulness-based interventions (MBIs). A number of high-quality efficacy studies have shown that MBIs such as Mindfulness-Based Stress Reduction (MBSR, Kabat-Zinn 2013) and Mindfulness-Based Cognitive Therapy (MBCT, Segal et al. 2013) lead to clinically relevant improvements in outcomes (Goldberg et al. 2018; Kuyken et al. 2016) in a number of conditions and disorders.

Although the field has made important progress over this time, there are still a considerable number of research areas that need to be addressed to provide empirically informed applications of MBIs that take into account the potential of these approaches as well as their boundary conditions. For example, in their review of the evidence base for MBIs, Dimidjian and Segal (2015) critically remarked that the main research activity in the field has been to develop and explore applications of MBIs in novel populations and target problems, rather than to expand the evidence base by addressing more fundamental questions. These questions include the effectiveness (in addition to efficacy) of MBIs under routine conditions outside of research settings, or their implementation and dissemination. The term "dissemination" refers to the distribution of an intervention to a specific audience, while "implementation" is defined as the process of transferring a treatment to the clinical setting (McHugh and Barlow 2010). In categorizing studies on MBIs using the National Institutes of Health (NIH) stage model (Onken et al. 2014), Dimidjian and Segal found that most studies they reviewed were feasibility and pilot testing studies at stage I (45%) or studies investigating efficacy in controlled trials in research clinics (29%). Only a minority of studies investigated efficacy in community clinics (< 1%; stage III), implementation or dissemination of MBIs (< 1%; stage IV) or examined the effectiveness of MBIs implemented by community providers under routine conditions "in the real world" (1%; stage V) (for a recent study on the implementation of MBCT see Rycroft-Malone et al. 2019).

Since evidence on the dissemination and implementation of MBIs is crucial for the responsible use of MBIs in the health care system, in this Special Section, we present research on the effectiveness of MBIs under routine conditions and innovative studies on the implementation and dissemination of MBIs.

The first two papers address the question of the effectiveness of MBCT in naturalistic real-world settings. Tickell et al. (2019) investigated the effectiveness of MBCT in five mental health services in different regions in the UK. In a sample of 1554 service users, they examined the effect of MBCT on depressive outcomes. For participants entering treatment with Patient Health Questionnaire (PHQ-9) scores in the non-depressed range (the group for whom MBCT was originally intended), 96% sustained their recovery across the treatment period. Moreover, there was a significant reduction in residual symptoms in this subgroup. For participants with PHQ-9 scores in the depressed range, Tickell et al. observed a recovery rate of 34%. Moreover, also in this subgroup, depressive symptoms were significantly reduced following MBCT. The authors concluded that MBCT is being delivered effectively and safely in routine UK clinical settings.

Gárriz et al. (2019) examined the benefits of MBCT delivered in a primary care setting in Spain. MBCT was delivered as part of an innovative primary care support program in Barcelona developed to increase access to mental health care services. They used a mixed-methods approach combining quantitative and qualitative analyses. In a diagnostically heterogeneous sample of 269 participants, depressive and anxiety symptoms were reduced following MBCT. The qualitative analysis in a subsample of 14 participants revealed four

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

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

[2] University of Heidelberg, Heidelberg, Germany

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

overarching themes: (1) effects of mindfulness practice, (2) learning process, (3) group experience, and (4) mindfulness in the health care system. The authors concluded that MBCT may be an effective approach for treating the symptoms of common mental disorders in the primary care setting.

An important issue in the implementation of psychotherapy is the cultural adaptation of programs. Two papers in this Special Section address this issue. Alampay et al. (2019) investigated the feasibility and acceptability of a local adaptation of MBCT called Kamalayan for Filipino schoolchildren. The program was facilitated by trained public school teachers. In a randomized controlled study (N = 186), the effects of Kamalayan on children's depressive and anxiety symptoms and difficulties in emotion regulation were compared with an active Handicrafts control condition. Implementation issues qualifying the absence of program effects of Kamalayan are discussed.

Castellanos et al. (2019) conducted a systematic review and meta-analysis of the effectiveness of cultural adaptations of MBIs for Hispanic populations. Twenty-two studies from different countries were reviewed and eight were included in the meta-analysis. The authors concluded that there is clear evidence that cultural adaptations can improve MBIs implementation among Hispanics.

Another issue crucial for successful implementation of MBIs is adapting the program format to the needs of different target populations. Murray-Swank et al. (2019) investigated whether a time-immersive, retreat-based format for MBIs offers an option for rural women veterans, who typically have difficulties accessing mental health services. In their study, 66 female veterans from rural areas participated in 3-day retreats. After the retreat, levels of psychological distress and posttraumatic stress disorder (PTSD) symptoms had decreased and mindfulness had increased. At the 1- und 3-month follow-ups, many of the treatment gains were sustained (e.g., decreases in PTSD and depression symptoms). Qualitative results revealed the salience of group factors, clinical conditions, retreat-specific elements, and programmatic components. The authors concluded that retreat-based MBIs show promise as an effective alternative for underserved rural women veterans.

Two papers investigated the health benefits of implementing mindfulness training in real-world organizational settings. De Bruin et al. (2019) evaluated an 8-week group-based mindfulness program (Finding Peace in a Frantic World Training) in a sample of 150 employees of a large multinational company. They found high levels of feasibility and acceptability of the program. Nearly all participants completed at least five of the eight sessions. Additionally, evaluations of the program were positive. Moreover, significant improvements at post-intervention and follow-up assessments occurred for personal goals, psychological well-being (stress, depression, anxiety, happiness, positive, and negative affect), work-related measures (dropout from work, physical and mental workability), work engagement, functioning within the company, and communication styles. The authors concluded that the 8-week mindfulness training in a multinational company led to direct and long-term positive effects on a broad range of outcomes.

The study by Krusche et al. (2019) also investigated mindfulness training in an organizational context. In a sample of 65 staff in a hospital setting, they compared effects of a workplace-adapted, 6-week mindfulness course with a waiting list control condition. Staff taking the course showed significant increases in mindfulness, psychological needs fulfillment, and reductions in perceived stress compared with the waiting list. They also found that increases in mindfulness mediated improvements in needs fulfillment and reductions in stress. The authors concluded that a workplace-adapted, short-format mindfulness course can achieve positive outcomes in line with mindfulness courses in other contexts.

Two further studies investigated mindfulness interventions in new clinical settings. Gaiswinkler et al. (2019) evaluated a specifically designed 6-week mindful self-compassion program in a clinical psychiatric rehabilitation setting. In addition to the routine rehabilitation, 200 psychiatric inpatients were randomized either to a mindful self-compassion program or to an active control condition (progressive muscle relaxation). In both conditions, the weekly sessions lasted 75 min. Compared with the control condition, patients in the mindful self-compassion condition showed a significantly greater improvement in self-compassion and in their amount of happiness. No differences between conditions were found regarding psychiatric symptoms and quality of life. The authors concluded that a mindful self-compassion program is applicable in psychiatric rehabilitation settings.

Buxton et al. (2019) investigated the effectiveness of an intensive mindfulness program in the naturalistic setting of a day hospital. In this randomized controlled pilot study, 81 currently depressed patients with work-related conflicts were assigned to either a day hospital mindfulness-based treatment or a waitlist condition including a psychopharmacological consultation. Compared with control participants, patients participating in the day hospital mindfulness-based treatment showed greater reductions in depression severity, higher work ability, and higher levels of mindfulness after 8 weeks. The treatment outcomes were stable during the 8-month follow-up period. The authors concluded that a treatment concept involving intensive training in mindfulness can successfully be established in a day hospital and can lead to a clinically meaningful reduction in depression severity and an increase in work ability.

Finally, Michalak et al. (2019) addressed the question of to what extent and in which forms mindfulness is implemented by psychotherapists working in private practice. Sixty-two German psychotherapists were interviewed with regard to their use of mindfulness in clinical practice using a web survey. The overwhelming majority (82%) of psychotherapists reported using mindfulness practices at least sometimes with their

patients. They mostly used the body scan, informal mindfulness practices, or breathing meditation in an eclectic way within individual therapy. Programs such as MBSR and MBCT were rarely applied. The results show that in addition to investigating the implementation of empirically underpinned mindfulness-based programs such as MBSR or MBCT, mindfulness researchers should also investigate the ways in which mindfulness-based practices have diffused into clinical work with individuals to get a more comprehensive picture of the way patients are usually exposed to mindfulness.

The papers published in this special section cover a wide range of topics relevant to the dissemination and implementation of MBIs. However, it should be noted that not all important aspects are represented here. To name only a few, online versions of MBIs show promising effects (Spijkerman et al. 2016) and can make an important contribution to disseminating MBIs on a large scale. Further, studies investigating mindfulness exercises integrated as an add-on to individual therapy are required (Mander et al. 2019). Moreover, identifying the skills that therapists need to effectively teach mindfulness and establishing standards for teacher training is an important task for implementation research (Ruijgrok-Lupton et al. 2018). Finally, programs that systematically disseminate and implement evidence-based MBIs are needed. The English Improving Access to Psychological Therapies program (IAPT, Clark 2018), for example, aims to bridge the gap between research and practice by training a large number of new psychological therapists in empirically supported treatments and deploying them in new services for the treatment of depression and anxiety disorders. Recently, MBCT has begun to be recommended in IAPT for people with recurrent depression who have largely recovered from the current episode (D. M. Clark, personal communication, September 8, 2019). However, no systematic research specifically on MBCT in the IAPT program has yet been published.

Although this Special Section does not (and cannot) include all relevant aspects of research on the dissemination and implementation of MBIs, we hope that the papers included here will make valuable contributions to answering the question of how MBIs can best be implemented and disseminated in health care systems in the service of individuals with a variety of conditions.

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Compliance with Ethical Standards

Conflict of Interest J. Mi. is a Director of the Achtsamkeitsinstitut Ruhr (an institute offering mindfulness training) and is a Principal Investigator of several DFG (German Science Foundation) research projects. T. H. and J. Mi. receive royalties from mindfulness books they have authored and receive stipends from workshops on mindfulness. J. Ma. declares that he has no conflict of interest.

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