

Original paper

Mindfulness Based Cognitive Therapy for Mental Health Professionals - A Pilot Study

Florian A. Ruths • Nicole de Zoysa • Sonya J. Frearson • Jane Hutton • J. Mark G. Williams •

James Walsh

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N. de Zoysa ✉ • J. Hutton

Department of Psychological Medicine (1st Floor, Cheyne Wing), King's College Hospital, Denmark Hill, London SE5 9RS, UK.

e-mail: ndezoysa@nhs.net

F.A. Ruths

Maudsley Psychotherapy Department, Denmark Hill, London SE5 8AF, UK.

S. J. Frearson,

Tower Hamlets Community Health Services, Aneurin Bevan House, 81 Commercial Road, London E1 1RD, UK.

J. M. G. Williams

Oxford University Department of Psychiatry, Warneford Hospital, Oxford, UK.

J. Walsh, School of Psychology, University of East London, London E15 4LZ

Abstract

We investigated the adherence of mental health professionals to a Mindfulness Based Cognitive Therapy (MBCT) program as well as the impact of MBCT on mindful awareness and attention, psychological well-being and distress, state and trait anxiety, worry and satisfaction with life. The design comprised of a prospective uncontrolled intervention study with pre- and post measurements of meditation adherence and measures of psychological well-being. Twenty-seven mental health professionals participated in an 8-week MBCT program for relapse prevention of depression, modified for healthy individuals. Their homework, mindful awareness and attention (MAAS), general psychological well-being (GHQ), state and trait anxiety (STAI), satisfaction with life (SWLS), general psychopathology (BSI) as well as worry (PSWQ) were measured at week 1 & 8 during the intervention and at week 20 as follow-up. Twenty-four of twenty-seven (88%) mental health professionals completed the course and were included in the analysis. Of these, 75% (18/24) were female with a mean age of 36 years and a mean experience in CBT of 6 years. Sixty-three per cent (15/24) reported continued practice at 20-weeks' follow-up. A statistically significant improvement of mindful awareness and psychological well-being, with significant reduction in worry, trait anxiety, and general psychopathology, was observed in participants who continued some form of meditation practice during follow-up period. The majority of mental health professionals adhered to the MBCT meditation practice, and the more they practised mindfulness meditation, the more they experienced an increase in mindful awareness and attention, general psychological well-being and a decrease in general psychopathology, trait anxiety and worry.

Keywords: mindfulness; mindfulness based cognitive therapy (MBCT); mental health professionals; meditation; training.

Mindfulness Based Cognitive Therapy (MBCT) is a manualised group skills training program developed to prevent relapse in major depression (Segal, Williams, & Teasdale, 2002). MBCT is based on the Mindfulness Based Stress Reduction (MBSR) program originally developed by Kabat-Zinn (1990) but also integrates elements of cognitive behavioural therapy for depression (Beck, Rush, Shaw,

& Emery, 1979). Mindfulness is taught through meditation exercises and the core skills are observing, describing, acting with awareness and accepting without judgement (Baer, Smith, & Allen, 2004). The role for mindfulness in relapse prevention is to identify and prevent the elaboration of ruminative depressogenic thought patterns. In two randomised controlled trials (Ma & Teasdale, 2004; Teasdale et al., 2000) MBCT has been shown to halve the rate of relapse in patients with three or more previous episodes of depression and has been included in the NICE guidelines (National Institute for Clinical Excellence, 2009) for relapse prevention in depression. In addition to recurrent depression, mindfulness meditation has been applied to other clinical areas such as anxiety, suicidality and eating problems (Baer, 2006; Baer et al., 2004).

Unlike other cognitive behavioural therapies, it is strongly recommended that MBCT trainers develop their own personal meditation practice. For example at the Center for Mindfulness at the University of Massachusetts, a minimum of three years personal meditation practice is recommended before becoming an MBSR instructor. Segal et al. (2002) also view a personal meditation practice as an essential requirement for MBCT. They comment on the importance of modelling mindfulness through the instructor's presence, as well as the content of the program. This raises issues regarding how to train MBCT instructors and whether personal meditation is a realistic and sustainable demand for health professionals. Smith (2004) has argued that the commitment required by an approach such as MBCT may be needlessly long, which risks alienating potential therapists. As a first stage of training, Segal et al. (2002) suggest professionals participate in an MBCT program themselves. No research has evaluated whether this approach supports professionals in the development of a personal meditation practice.

A second issue concerns whether training in mindfulness meditation may provide psychological benefit for the professionals as well as their patients. Previous research has suggested that mental health professionals are particularly vulnerable to increased stress levels (Margison, 1987), maladaptive coping strategies (Farber, 1983; Guy & Liaboe, 1986) and burnout in the workplace (Farber & Heifetz, 1982). In a randomised controlled trial of Mindfulness Based Stress Reduction (MBSR) for health care

professionals, Shapiro, Astin, Bishop, and Cordova (2005) demonstrated a reduction in overall stress levels and an increase in quality of life and self-compassion. In a subsequent study, Shapiro, Brown, and Biegel (2007) reported similar findings with therapists in training. This study also demonstrated increases in mindfulness. Cohen-Katz et al. (2005) reported significant reductions in emotional exhaustion and depersonalisation, as well as significant improvements in mindfulness, in nurses who had attended an MBSR program. Schenstrom, Roennberg, and Bodlund (2006) found that health professionals who had attended a mindfulness-based cognitive attitude training program showed beneficial changes in measures of mindfulness, quality of life and perceived stress, post intervention and also at 3 month follow-up. Consequently, there is some evidence to suggest that mindfulness-based approaches may support the mental health of professionals as well as patients.

The above studies demonstrated an improvement in well-being for professionals. However, they did not measure time spent meditating. There is some debate about the necessity of meditation practice (Smith, 2004; Vetesse, Toneatto, Stea, Nguyen, & Wang, 2009). For example, in acceptance and commitment therapy (ACT), Fletcher & Hayes (2005) use a variety of exercises to cultivate mindfulness, aside from meditation. Consequently, a key question for the development of a training program is whether improvements in well-being are related to meditation practice. A further consideration is that the above studies used broad measures of well-being and stress, but did not investigate specific psychological problems. There is growing evidence that mindfulness may be useful in managing worry and anxiety (Roemer & Orsillo, 2002). This has not been explored in a professional population.

To date, no research has specifically investigated the impact of MBCT (as opposed to other mindfulness based approaches) on the psychological well-being and meditation habits of mental health professionals. We describe a prospective uncontrolled study of an 8-week MBCT program run for mental health professionals. Measures were taken pre- and post-intervention and at three months follow-up, in relation to mindful awareness and attention, psychological well-being and distress, trait and state anxiety levels, worry and meditation practice (type, frequency and length). In this study, our aim was to

investigate three questions: (1) do professionals maintain a meditation practice during and after attending an MBCT program; (2) is program attendance associated with increases in measures of psychological well-being and decreases in measures of distress; and (3) are positive outcomes associated with meditation practice?

Method

Participants

Participants working in a mental health trust and research institute were recruited via an email invitation. In two preliminary meetings, the study was explained and the program was outlined. No rewards were offered for participating and the program was offered without charge. As MBCT has not been shown to be effective in an acutely depressed population (Ma & Teasdale, 2004; Teasdale et al., 2000), acute depressive illness and suicidality were exclusion criteria, using the *Beck Depression Inventory* (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). There were 27 participants who completed the program, and of these 24 completed questionnaires at both time points (i.e., the beginning and end of the MBCT program).

Most participants were clinical psychologists (14 qualified and 2 in training). The second largest group were research psychologists (5) and there was also one social worker and two psychiatrists. The mean age was 35 years (range 24 – 53 years) and three quarters of the sample were female. In terms of previous meditation experience, only one participant had practised mindfulness on a regular basis before attending the program. There was a range of CBT experience from 0 to 20 years, with a mean of 6 years.

Procedure

A prospective uncontrolled intervention study, using a repeated measures design, was employed. The intervention was the MBCT program (Segal et al., 2002) delivered in eight weekly sessions, lasting two hours each. In addition, there were two follow up sessions at weeks 14 and 20. Participants were asked to sign a consent form which highlighted some of the known potentially harmful effects of

meditation, including depersonalisation phenomena and initial mood deterioration. The program was delivered out of normal working hours within the premises of the Trust. The participants were divided into two groups of 13 and 14 in order to separate any supervisors from their supervisees. Both groups had the same facilitator (FAR).

The measures were administered at baseline (week 0), end of intervention (week 8) and at 3 month follow-up (week 20). Participants were encouraged to complete questions on site to simplify delivery and maximise questionnaire return. In order to control for the impact of meditation practice on questionnaire responses, questionnaires were given out before the relevant session commenced.

The MBCT program

The intervention was presented as an 8-week program, according to the manual for relapse prevention of depression (Segal et al., 2002). The participants were asked to purchase their own meditation CDs and copy of the book “Full Catastrophe Living” (Kabat-Zinn, 1990). As this was a non-clinical group, the focus was on distressing emotional states rather than clinical depression. Each session was two hours long and included teaching and practice of a variety of meditation exercises, discussion regarding the experience of meditating and education about the development of unpleasant mood states. As well as delivering the program content, the facilitator aimed to model the spirit of mindfulness throughout their teaching and mode of enquiry.

Participants were introduced to a variety of meditation practices. Sitting meditation involves bringing awareness to the breathing, to other sensory events such as sounds and to mental events such as thoughts. The body scan involves a progressive movement of awareness from toes to head, observing related physical sensations. Mindful movement is also taught through gentle stretches and postures, as well as mindful walking. In addition to the above, participants are introduced to the 3-minute breathing space, which is regarded as a “mini meditation”. As well as these guided formal practices, participants

are encouraged to practice mindfulness more informally, e.g. through everyday activities such as washing up, brushing teeth, driving etc.

The CBT component of the program included psycho-education about the nature of thoughts as mental events rather than fact and the role of behavioural activation. Participants were asked to record situations where strong emotions arose and to note the thoughts, bodily sensations and behaviours associated with these emotions. The links between thinking, behaviour and mood were made explicit from these records. In addition, participants were asked to identify early warning signs and develop an action plan to prevent the escalation of distressing emotions.

The program also had a significant homework component. Participants were asked to meditate six out of seven days of the week, for up to 45 minutes at a time, using guided meditation CDs. Furthermore, they were asked to incorporate informal practice through everyday activities and to keep diary records of thoughts and feelings that arose during the week. An additional requirement of the study was that participants record the length, frequency and type of meditation practices they followed each week.

Program integrity

The facilitator (FAR) had seven years of CBT experience, over two years personal meditation practice and had attended a seven-day intensive resident workshop of MBSR training for health professionals. Four months prior to the study, he had facilitated a pilot MBCT program for mental health professionals, which had been supervised by JMGW. The integrity of the MBCT program in this study was monitored via phone and video supervision by JMGW. All sessions were videoed with consent of the participants for supervision purposes.

Measures

Data on participants' baseline characteristics included gender, age, experience in CBT and degree of meditation experience. The main dependent variables were measured as follows:

Mindfulness. Mindfulness was measured using the *Mindful Awareness and Attention Scale* (MAAS; Brown & Ryan, 2003). The MAAS is a 15 item self-rated measure, which uses a 6-point response scale. The measure asks about the frequency of mindless states across a number of domains - cognitive, emotional, interpersonal and general. Brown and Ryan (2003) reported good test-retest reliability and convergent and divergent validity when comparing the MAAS with other measures of psychological awareness. Furthermore, the MAAS was able to discriminate mindfulness practitioners from controls and was sensitive to post intervention change. It was chosen as the most reliable and valid measure of mindfulness when the group was run.

Psychological well-being. Psychological well-being was measured using the *General Health Questionnaire* (GHQ-12; Goldberg & Hillier, 1979; Goldberg & Williams, 1988). The GHQ-12 asks about changes in perceived psychological functioning and is therefore a useful post-intervention measure.

Life satisfaction. Global life satisfaction was measured using the *Satisfaction with Life Scale* (SWLS; Diener, Emmons, Larsen, & Griffin, 1985). The SWLS asks broad questions which allow participants to evaluate their life satisfaction according to their own criteria. The SWLS shows high internal consistency and temporal reliability and is reported to be sufficiently sensitive to detect post intervention change (Diener et al., 1985; Pavot, Diener, Colvin, & Sandvik, 1991).

Psychological distress. Psychological distress was measured using the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983). This well-validated and frequently used instrument was employed to measure symptoms of psychopathology.

Trait worry. Tendency for excessive worry was measured using the *Penn State Worry Questionnaire* (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990). This is a commonly used measure with good psychometric properties. It was chosen to measure the proposed anti-ruminative effect of MBCT.

Trait and state anxiety. Trait and state anxiety was measured using the *State-Trait Anxiety Inventory* (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The STAI is the most widely used scale for measuring anxiety and has good psychometric properties (Spielberger, 1985).

Meditation practice. A self-report questionnaire was devised by the first author to record both frequency and duration of informal practice (per day) and formal practice (per week). These data were converted to a weekly measure of practice for ease of comparison across different data collection points.

In addition to the above measures, any adverse reactions to in-session or homework meditation practice were recorded manually by the investigators.

Ethical considerations

The study was approved by King's College London/Institute of Psychiatry's ethical committee. Informed consent of each participant was sought before inclusion in the study. Each participant was assigned an identification number to ensure anonymity. The researchers rating questionnaires and analysing data were blind to the participants' identities. The researcher holding the list of names and identification numbers had no access to the questionnaires or data sets.

Results

Adherence to the MBCT program and meditation practice

While the mean number of MBCT program sessions attended was seven, the great majority of participants (24/27; 88%) attended four or more sessions. In terms of home practice, the average number of meditation practices per week was 11, which included both formal and informal practices. Participants practised for an average of 197 minutes/week (range 98 – 432 minutes). Just over half of the participants (54%) attended the three month follow-up (13/24) and three quarters of the original sample returned follow-up data (18/24). At follow-up, three participants reported no further meditation practice. Of those that continued meditating (15/18), the average length of practice was 166 minutes/week (range 41 – 568 minutes).

MBCT program attendance and psychological well-being

At the end of the MBCT program, there was a significant improvement in mindful attention and awareness ($Z = -2.654$; $p = 0.008$) and also psychological well-being ($Z = -2.949$; $p = 0.003$); see Table 1. The other measures did not show a statistically significant difference. At 3 month follow-up, there continued to be a significant improvement in mindful attention and awareness, compared to baseline scores ($Z = -3.248$; $p = 0.001$). In addition, there was a significant reduction in psychological distress ($Z = -2.299$; $p = 0.021$). The other measures did not show statistically significant differences; however, there was a trend towards improved psychological well-being ($Z = -1.714$; $p = 0.087$) and reduced trait worry ($Z = -1.919$; $p = 0.055$) at follow-up.

Insert table 1 about here

A separate analysis was carried out on those participants who had continued meditating at 3 month follow-up ($N = 15$). The results are shown in Table 2 below. In this sample, there was a significant improvement in five out of the eight measures: mindful awareness and attention ($Z = -2.868$; $p = 0.004$), psychological well-being ($Z = -2.145$; $p = 0.032$), psychological distress ($Z = -2.801$; $p = 0.037$), trait anxiety ($Z = -2.106$; $p = 0.035$) and trait worry ($Z = -2.262$; $p = 0.024$).

Insert table 2 about here

Psychological well-being and length of meditation practice

Correlational analyses were carried out between length of meditation practice and the psychological outcome measures, at the end of the intervention (week 8). There were no significant correlations found at this point. However, at 3 month follow-up, trait anxiety and psychological well-

being were found to correlate significantly with the time spent meditating ($\rho = -.524$; $p = .037$ and $\rho = .520$; $p = .047$, respectively).

Discussion

The majority of participants completed the MBCT program, practised a significant amount of meditation during the intervention, and about two thirds of the original sample reported continued practice at three month follow-up. Program attendance was associated with improved levels of mindfulness (MAAS) and psychological well-being (GHQ). At follow-up, improvements in mindfulness were sustained, and psychological distress (BSI) was also reduced. Those who continued meditating at follow-up showed additional improvements in trait anxiety and trait worry. There was an association between the amount of time spent meditating and improvement in trait anxiety (STAI) and psychological well-being (GHQ) which became apparent at three month follow-up.

The therapeutic effects of MBCT

The therapeutic benefits reported above are compatible with findings from other non-clinical populations using the MBSR program. Four randomised controlled trials have demonstrated reductions in psychological distress in student and worker populations (Astin, 1997; Jain et al., 2007; Shapiro, Schwartz, & Bonner, 1998). As well as *reducing* distress, mindfulness based programs have been linked with *increasing* levels of well-being and mindfulness in health professionals (Cohen-Katz et al., 2005; Schenstroem et al., 2006; Shapiro et al., 2005). This was supported by the findings from this study. Health care is fraught with occupational stresses and burnout (Firth-Cozens & Payne, 1999). Improvements in baseline psychological functioning (as assessed by the trait measures) might provide a buffer to these environmental stressors and improve job sustainability. Therefore, MBCT may be a tool for managing psychological well-being for professionals as well as patients.

Significant changes in most of the measures were only evident when separating those who continued meditating after the program from those who did not. It is interesting to consider the relationship between meditation practice and the benefits reported above. In this study, there was no

association between duration of weekly practice and psychological outcome measures. Similarly, Shapiro et al. (2007) found no relationship between weekly mindfulness practice and changes in distress or well-being amongst therapists in training. However, in the current study, an association did emerge at three month follow-up. Shapiro et al. (2007) have suggested that a relationship with some psychological variables may only appear when some critical threshold of practice time has been met. In Brown and Ryan's (2003) study, MAAS scores were related to the number of *years* of practice (in a group of Zen practitioners) rather than the amount of *weekly* meditation practice. Consequently, expectations regarding how quickly benefits appear also need to be taken into account.

Most MBCT work has focussed upon depression, but in this study, measures of trait anxiety and trait worry were also included. Kabat-Zinn et al. (1992) have demonstrated the anxiolytic effects of MBSR in patients experiencing generalised anxiety disorder and panic. Furthermore, in an uncontrolled study of MBSR in nurses, Beddoe and Murphy (2004) reported a significant reduction of anxiety levels. In this study, trait anxiety and trait worry were found to be reduced in those participants who continued meditation at three-months' follow-up. Worry is a ruminative process, and thoughts are often future focussed. Mindfulness training invites participants to become aware of their ruminative thought processes, and to bring their awareness back to the present moment. Roemer and Orsillo (2002) have suggested that through this mechanism, the escalation of anxiety related cognitions may be inhibited. Jain et al. (2007) found no significant differences on reducing distress between a mindfulness group and a relaxation group. However, mindfulness training produced greater changes for positive mind states and reduced rumination.

MBCT program attendance

It is useful to consider the acceptability of the program, given its significant demand upon time and home practice. This study found a high rate of attendance, with only 3 participants (12%) dropping out and the remainder attending four or more sessions. Shapiro et al. (1998) reported high levels of program attendance amongst trainee doctors and trainee therapists (97-100%). However, in qualified

health professionals the retention rate was significantly lower (56%). A possible explanation for the high retention rate in this study is that participants were attending not only for their own well-being, but also to learn about a new therapy likely to be of potential use with their clients. Cohen-Katz et al.'s (2005) study with nurses also reports a low drop out rate (2 out of 14 participants). This suggests that MBCT might be a viable program for committed professionals, despite the constraint upon time.

Limitations and further research

The results from the study are limited by the modest sample size. Scores on the psychological measures all moved in the predicted direction, though not all reached statistical significance. The study also did not feature a control group. Therefore, further research using an active control group is needed. Chiesa and Serretti (2009) have also highlighted the need for longer term data beyond three-months' follow-up to assess the sustainability of improvements. The second paper in this three part series (De Zoysa, Ruths, Walsh, & Hutton, *in press*) provides 18 month quantitative follow-up data on this group.

The study also raises questions regarding how the program was perceived, attitudes towards meditation practice and impact upon personal and professional lives. This might reveal what motivates participants to continue meditative practices and therefore how the approach can be promoted. It might also reveal which elements of the program were most salient, which had minimal impact and how mindfulness influences working life. Some of these questions were addressed using qualitative methods in the third paper in this series (De Zoysa, Ruths, Walsh, & Hutton, *in press*).

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Table 1. Mean levels of psychological well-being in MBCT programme completers

Measure	Baseline	End	Wilcoxon Z-value	Follow-up	Wilcoxon Z-value
	Mean (n = 24)	Mean (n = 24)		Mean (n = 18)	
	Week 0	Week 8		Week 20	
Mindfulness (MAAS)	53.6	61.0	-2.654 (p=0.008)	61.0	-3.248 (p=0.001)
Psychological well-being (GHQ-12)	10.0	7.4	-2.949 (p=0.003)	8.4	-1.714 (p=0.087)
Psychological distress (BSI)	50.0	48.4	-0.958 (p=0.338)	45.2	-2.299 (p=0.021)
Life Satisfaction (SWLS)	23.2	24.5	-1.421 (p=0.155)	24.4	-1.386 (p=0.166)
State Anxiety (STAI)	35.0	33.8	-0.888 (p=0.375)	36.2	-0.262 (p=0.794)
Trait Anxiety (STAI)	36.5	35.9	-0.262 (p=0.794)	34.2	-1.638 (p=0.101)
Trait Worry (PSWQ)	41.4	39.3	-1.515 (p=0.130)	36.6	-1.919 (p=0.055)

Table 2. *Psychological well-being in meditators at 3 month follow-up*

Measure	Baseline	Follow-up	Wilcoxon Z-value
	Mean (n = 15) Week 0	Mean (n = 15) Week 20	
Mindfulness (MAAS)	51.7	61.5	-2.868 (p=0.004)
Psychological well-being (GHQ-12)	10.9	7.8	-2.145 (p=0.032)
Psychological distress (BSI)	49.7	45.5	-2.081 (p=0.037)
Life Satisfaction (SWLS)	23.4	24.4	-0.842 (p=0.400)
State Anxiety (STAI)	37.7	35.6	-0.974 (p=0.330)
Trait Anxiety (STAI)	37.7	33.6	-2.106 (p=0.035)
Trait Worry (PSWQ)	42.9	36.6	-2.262 (p=0.024)