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Shorter communication

The effectiveness of self-help mindfulness-based cognitive therapy in a student sample: A randomised controlled trial

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ABSTRACT

Mindfulness-based cognitive therapy (MBCT) involves approximately twenty hours of therapist contact time and is not universally available. MBCT self-help (MBCT-SH) may widen access but little is known about its effectiveness. This paper presents a randomised controlled trial (RCT) of MBCT-SH for students. Eighty students were randomly assigned to an eight-week MBCT-SH condition or a wait-list control. ANOVAs showed significant group by time interactions in favour of MBCT-SH on measures of depression, anxiety, stress, satisfaction with life, mindfulness and self-compassion. Post-intervention between-group effect sizes ranged from Cohen's $d = 0.22$ to 1.07. Engagement with MBCT-SH was high: participants engaged in mindfulness practice a median of two to three times a week and 85% read at least half the intervention book. Only 5% of participants dropped out. This is the first published RCT of MBCT-SH and benefits were found relative to a control group. MBCT-SH has the potential to be a low-cost, readily available and highly acceptable intervention. Future research should include an active control condition and explore whether findings extend to clinical populations.

Introduction

Mindfulness has been defined as "the awareness that emerges through paying attention on purpose, in the present moment, and non-judgementally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, p. 145). It involves learning to self-regulate one's attention and to orientate to the present with openness, curiosity and acceptance. Mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002) is an eight-week group intervention with sessions lasting 2 to 2½ hours. Participants are invited to engage in mindfulness practices in session and at home and learning from these practices is drawn out through group discussion. Originally designed as a relapse prevention intervention for depression, MBCT has been shown to halve the risk of relapse for people who have had three or more episodes of depression (Kuyken et al., 2008; Ma & Teasdale, 2004; Segal et al., 2010; Teasdale et al., 2000). Recent studies suggest MBCT can also reduce symptoms of a current episode of depression (Barnhofer et al., 2009; Strauss, Cavanagh, Oliver & Pettman, 2014; Van Aalderen et al., 2012) with comparable effects to group CBT (Manicavasgar, Parker, & Perich, 2011) and can be effective for certain anxiety disorders (Evans et al., 2008; Lovas & Barsky, 2010; McManus, Surawy, Muse, Vazquez-Montes, & Williams, 2012; Piet, Hougaard, Hecksher, & Rosenberg, 2010).

MBCT is recommended by clinical guidelines (e.g. National Institute of Health and Care Excellence, 2004), but its implementation has been slow partly due to resource pressures and its reliance on trained MBCT teachers (Crane & Kuyken, 2012). Widening access through self-help is one way of addressing this lack of availability. Mindfulness-based self-help resources including books, CDs, phone apps and online packages are easily accessible and popular. However, while there is evidence that self-help cognitive behavioural therapy (CBT-SH) is effective for depression (Gregory, Canning, Lee, & Wise, 2004) and anxiety disorders (Lewis, Pearce, & Bisson, 2012), little is known about the effectiveness of MBCT self-help (MBCT-SH). Although research into MBCT-SH is in its infancy, there is emerging evidence that self-help books based on Acceptance and Commitment Therapy (ACT), an approach which includes mindfulness principles, can improve

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anxiety and depression in community (Fledderus, Bohlmeijer, Pieterse, & Schreurs, 2011) and student (Muto, Hayes, & Jeffcoat, 2011) populations. Similarly, a recent meta-analysis of self-help interventions that included mindfulness and/or acceptance components found they led to significantly lower symptoms of anxiety and depression in comparison to control conditions (Cavanagh, Strauss, Forder, & Jones, 2014). Many studies of self-help include a degree of therapist support, but a meta-analysis of CBT-SH found that therapist support did not appear to improve outcomes (Farrand & Woodford, 2013) and unsupported self-help has the potential to further increase access given its minimal demands on resources.

The aim of the current study was to examine the effectiveness of unsupported MBCT-SH for students. Primary hypotheses were that MBCT-SH in comparison to a wait-list control condition would lead to reductions in symptoms of anxiety, depression and stress and improvements in life satisfaction, mindfulness and self-compassion.

Method

Design

This was a single-blind randomised controlled trial with an intervention group receiving MBCT-SH and a wait-list control group. Ethical approval was obtained from the host university ethics committee and participants received an information sheet and gave their consent before taking part.

Participants

A power calculation using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007) with $p = .05$ and power set at 80% showed that 68 participants would be needed to detect comparable effect sizes to those reported in a similar study of ACT bibliotherapy in a non-clinical sample (Fledderus et al., 2011). Eighty student participants were recruited to allow for up to 15% attrition. The inclusion criteria were for participants to: (i) be an undergraduate or postgraduate at the host UK university; (ii) score at least 6.5 on the International English Language Testing System (IELTS); (iii) be 18 years or older; and (iv) have the means to listen to a CD. Individuals were excluded if they: (i) were receiving psychological therapy; (ii) already practised mindfulness meditation regularly (once a week or more); or (iii) had already read the intervention book. The mean age of participants was 28.61 years (SD = 9.12), 81% were female and 86% were of white ethnicity. Around half (54%) were post-graduates and most (84%) were studying full-time. There were no significant baseline differences between intervention and control participants on any demographic (Table 1) or dependent variables (Table 2).

Table 1
Demographic characteristics of participants.

	MBCT self-help $n = 40$	Control group $n = 39$	Total $n = 79$	Between-group comparison
Gender *n* (%)				
Female	31 (77.5)	33 (84.6)	64 (81.0)	$\chi^2 = 0.65$,
Male	9 (22.5)	6 (15.4)	15 (19.0)	$p = .420$
Total	40 (100.0)	39 (100.0)	79 (100.0)	
Ethnicity *n* (%)				
White	33 (82.5)	35 (89.7)	68 (86.1)	$\chi^2 = 0.86$
Non-white	7 (17.5)	4 (10.3)	11 (13.9)	$p = .352$
Total	40 (100.0)	39 (100.0)	79 (100.0)	
Student *n* (%)				
Undergraduate	16 (40.0)	20 (51.3)	37 (45.6)	$\chi^2 = 1.01$
Postgraduate	24 (60.0)	19 (48.7)	43 (54.4)	$p = .314$
Total	40 (100.0)	39 (100.0)	79 (100.0)	
Studying *n* (%)				
Full-time	32 (80.0)	34 (87.2)	66 (83.5)	$\chi^2 = 0.74$
Part-time	8 (20.0)	5 (12.8)	13 (16.5)	$p = .390$
Total	40 (100.0)	39 (100.0)	79 (100.0)	
Age mean (sd)	30.50 (10.78)	26.67 (6.75)	28.61 (9.16)	$U = 646.0$, $z = -1.32$, $p = .188$

Measures

Depression Anxiety and Stress Scales – Short Form (*DASS-21*; Lovibond & Lovibond, 1995). The DASS-21 is a 21-item measure of depression, anxiety and stress (seven items per scale). Items are rated over the past week from 0 to 3 and summed for each subscale then doubled. The cut off scores for mild levels of depression, anxiety and stress are 10, 8 and 15 respectively. The scale has high internal consistency for the depression ($\alpha = 0.88$), anxiety ($\alpha = 0.82$), and stress ($\alpha = 0.90$) scales and good discriminant and convergent validity (Henry & Crawford, 2005)).

Satisfaction with Life Scale (*SWLS*; Diener, Emmons, Larsen & Griffin, 1985). The SWLS is a five-item measure of global life satisfaction rated on a 1–7 scale and summed to give a total score. The scale has high internal consistency ($\alpha = 0.87$) and good convergent and discriminant validity (Pavot & Diener, 1993).

Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). The FFMQ consists of 39 items, rated on a 1–5 scale, assessing five facets of mindfulness: *observing*, *describing*, *acting with awareness*, *non-judging* and *non-reactivity*. The FFMQ subscales have good internal consistency ($\alpha = 0.75–0.91$) and are sensitive to change (Carmody & Baer, 2008).

Self-Compassion Scale- Short Form (SCS-SF; Raes, Pommie, Neff & Van Gucht, 2011). This is a 12-item measure of self-compassion, a potential mechanism of change in MBCT (Kuyken et al., 2010). Item ratings from 1 to 5 are summed to give a total score. Raes, Pommier, Neff, and Van Gucht (2011) report high internal consistency ($\alpha = 0.86$) for the scale and a near perfect correlation ($r = 0.98$) with the long form.

Engagement. Engagement with the MBCT-SH intervention was measured by self-report at the end of the intervention as the number of book chapters read and frequency of mindfulness practice per week of the intervention.

Table 2
Between-group differences on dependent variables at baseline.

	MBCT self-help $n = 40$	Control group $n = 39$	Between-group *t* (*p*)
DASS-21 mean (sd)			
Anxiety/42	9.80 (6.84)	11.13 (8.27)	−1.09 (0.28)
Depression/42	14.95 (10.53)	15.90 (10.81)	−0.48 (0.63)
Stress/42	21.75 (7.11)	21.38 (8.12)	−0.06 (0.96)
SWLS mean (sd)			
Total/35	19.13 (6.38)	19.51 (7.60)	−0.40 (0.69)
FFMQ mean (sd)			
Observe/40	24.15 (6.22)	22.64 (5.12)	1.06 (0.29)
Describe/40	24.38 (6.28)	24.85 (6.26)	−0.27 (0.79)
Act Awareness/40	20.33 (6.43)	20.13 (6.62)	0.26 (0.80)
Non-judgement/40	20.67 (5.80)	22.51 (7.13)	−1.01 (0.31)
Non-reacting/35	17.38 (5.07)	16.03 (3.61)	1.40 (0.17)
SCS-SF mean (sd)			
Total/60	28.30 (8.23)	29.74 (8.32)	−0.56 (0.58)

DASS-21: Depression, Anxiety and Stress Scales (short form); SWLS: Satisfaction with Life Scale; FFMQ: Five Facet Mindfulness Questionnaire; SCS-SF: Self-Compassion Scale (short form).