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# Mindfulness-Based Cognitive Therapy Program Improving Emotional Regulation, Burnout, and Stress in Healthcare Professionals

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## Abstract

To evaluate the effectiveness of an 8-week, 30-hour Mindfulness-Based Cognitive Therapy (MBCT) training program in improving mindfulness, reducing perceived stress, and reducing burnout-related outcomes among healthcare professionals. A prospective within-subject study with pre-intervention and 12-week post-intervention assessments. Fifty-one healthcare professionals completed the MBCT program. Participants completed the Maslach Burnout Inventory, the Five Facet Mindfulness Questionnaire (FFMQ), and the Perceived Stress Scale. Course satisfaction, perceived usefulness, and self-reported home practice were also recorded. Participants rated the course highly in terms of both personal and professional utility, with high levels of attendance. Significant improvements were observed in mindfulness facets (Observing, Describing, Non-judging, and Non-reactivity) and in the total FFMQ score at follow-up. Emotional exhaustion and perceived stress decreased significantly. Depersonalization decreased and personal accomplishment increased, although these changes did not reach statistical significance. Overall course evaluation was associated with greater improvements in mindfulness and stress-related outcomes, whereas home practice adherence at follow-up was not significantly associated with outcome changes. MBCT appears to be a feasible and well-accepted intervention to improve mindfulness and reduce perceived stress and emotional exhaustion among healthcare professionals. Standardized MBCT training may be considered for integration into continuing professional education programs.

*Key words*: mindfulness, healthcare professionals, burnout, perceived stress, continuing education, emotional regulation.

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### *Novelty and Significance*

*What is already known about the topic?*

- Healthcare professionals experience high levels of occupational stress and burnout, negatively affecting wellbeing and potentially compromising quality of patient care.
- Mindfulness-based interventions have shown effectiveness in reducing stress and burnout across different populations.
- Previous studies suggest mindfulness training may improve emotional regulation, empathy, and job-related outcomes among healthcare workers.

*What this paper adds?*

- Provides empirical evidence on the effectiveness of an Mindfulness-Based Cognitive Therapy program delivered within a hospital continuing education context.
- Assesses course satisfaction, perceived usefulness, and knowledge transfer to the workplace, highlighting strong acceptability and applicability among participants.
- Offers feasibility data supporting the implementation of standardized mindfulness training as a preventative and supportive tool in healthcare settings.

Health professionals are exposed to multiple occupational stressors, including high workloads, excessive demands, emotional burden, and insufficient organizational support, which threaten their resilience and increase the risk of chronic stress and burnout (Hamilton-West, Pellatt-Higgins, & Pillai, 2018; Klein, Taieb, Xavier, Baubet, & Reyre, 2020; Rodríguez Vega, López Muñoz, & García Rodríguez, 2020). Elevated stress

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levels negatively affect both physical and mental health, impair work performance, and may compromise the quality of care (Askey-Jones, 2018; Braun, Kinser, & Rybarczyk, 2019; Spinelli, Wisener, & Khoury, 2019; Fendel, Aeschbach, Göritz, & Schmidt, 2020). Consequently, the implementation of effective self-care and preventive interventions has become a priority in healthcare systems.

Mindfulness training is a therapeutic approach rooted in contemplative traditions and operationalized in clinical psychology as the intentional, non-judgmental awareness of present-moment experiences, including thoughts, emotions, bodily sensations, and environmental stimuli (Kabat-Zinn, 1982; Baer, 2003; Bishop *et alii*, 2004; Kabat-Zinn, 2016). The Mindfulness-Based Stress Reduction (MBSR) program emphasizes two core components: attentional regulation and an attitude of openness, curiosity, and acceptance toward experience. Mindfulness-Based Cognitive Therapy (MBCT) integrates MBSR with principles of cognitive therapy to modify maladaptive cognitive reactivity and prevent relapse in depression (Segal, Williams, & Teasdale, 2002). Beyond relapse prevention, MBCT enhances present-moment awareness and adaptive emotional responding, facilitating coping with stress, pain, illness, and everyday life challenges (Gu, Strauss, Bond, & Cavanagh, 2015).

A growing body of evidence supports the efficacy of mindfulness-based interventions (MBIs) across a wide range of psychological outcomes. Meta-analytic studies indicate moderate to large effects on stress, anxiety, depression, and overall psychological wellbeing (Khoury *et alii*, 2013; Khoury, Sharma, Rush, & Fournier, 2015). In occupational contexts, MBSR and MBCT have demonstrated beneficial effects on emotional exhaustion, perceived stress, and psychological distress among workers (Janssen, Heerkens, Kuijer, van der Heijden, & Engels, 2018). Specifically, among healthcare professionals, mindfulness training has been associated with reductions in burnout, stress, and emotional distress, with several studies reporting maintenance of gains over follow-up periods (Shapiro, Austin, Bishop & Cordova, 2005; Shapiro, Brown & Biegel, 2007; Hamilton-West *et alii*, 2018; Askey-Jones, 2018; Lomas, Medina, Ivtzan, Rupprecht & Eiroa-Orosa, 2019; Fendel *et alii*, 2020; Rodríguez Vega et alii, 2020; Xie *et alii*, 2020; Kim & Hunter, 2023). In addition, preliminary evidence suggests that mindfulness training may enhance empathy and therapeutic presence, although its impact on objective indicators of patient care remains insufficiently explored (Braun *et alii*, 2019; Spinelli *et alii*, 2019).

Empirical studies provide convergent support for the potential utility of MBCT in healthcare settings. Askey-Jones (2018) reported significant reductions in burnout and increases in mindfulness among mental health professionals participating in an 8-week MBCT program, with effects maintained at six-month follow-up. Hamilton-West *et alii* (2018) observed significant decreases in perceived stress and burnout among UK general practitioners following a modified MBCT intervention. Fendel *et alii* (2020) found improvements in perceived stress, mental health, self-compassion, occupational stress, burnout, work performance, and empathy among medical residents, together with reduced hair cortisol secretion, providing objective biological evidence of stress reduction. In a randomized controlled trial with intensive care nurses, Xie *et alii* (2020) demonstrated significant reductions in emotional exhaustion maintained at three-month follow-up. Strauss *et alii* (2021) evaluated MBCT for Life (MBCT-L), a modified program for National Health Service staff, and reported significant reductions in stress, depression, and anxiety, as well as increases in wellbeing, mindfulness, and self-compassion. Systematic reviews further support positive effects of MBIs on psychological wellbeing in nurses, while highlighting methodological heterogeneity and the need for more rigorous designs (Klein *et alii*, 2020; Sulosaari, Unal, & Cinar, 2022). More recently, Kim and Hunter (2023) showed that even brief mindfulness interventions can reduce emotional exhaustion and

depersonalization, with sustained effects and associations between practice frequency and improved outcomes.

Despite these encouraging findings, adherence to ongoing mindfulness practice appears to be a critical determinant of both short- and long-term benefits (Parsons, Crane, Parsons, Fjorback, & Kuyken, 2017; Kim & Hunter, 2023). Future research should further clarify dose–response relationships, optimize intervention formats, and compare standard programs with shorter or adapted versions, particularly in real-world clinical settings.

## Method

### *Participants*

The study initially included sixty-one healthcare professionals, including consultants, residents, nurses, and trainees, enrolled in a Mindfulness-Based Cognitive Therapy (MBCT) course offered as part of the Continuing Education Program of a University Hospital. Prior to enrollment, participants received written and verbal information about the study objectives and procedures and provided informed consent. Ten participants did not complete the study assessments and were therefore excluded from the final sample. The final sample consisted of fifty-one participants. Cases with missing data were excluded only from the corresponding statistical analyses requiring complete data.

### *Design*

This study employed a longitudinal single-group intervention design with follow-up and without a control group. Participants completed assessments at baseline (pre-intervention) and at 12-week follow-up (i.e., 12 weeks after completion of the course) to evaluate changes over time. The intervention consisted of a standardized mindfulness-based training program aimed at enhancing mindfulness skills and reducing perceived stress and burnout. The primary objective was to examine within-participant changes across the two assessment time pointsl.

### *Instruments and Measures*

Baseline assessment was conducted prior to the initiation of the MBCT course and included sociodemographic and professional variables (age, gender, occupation, and type of professional activity), as well as psychological assessment using the instruments described below. Three months after completion of the course, participants were invited to complete the same psychological measures together with a course evaluation questionnaire and a knowledge transfer questionnaire. In addition, a specific interview assessing home practice was conducted.

*Five Facet Mindfulness Questionnaire* (FFMQ, Baer *et alii*, 2006). Mindfulness skills were assessed using the FFMQ, a 39-item self-report instrument comprising five subscales: Observing, Describing, Acting with Awareness, Non-judging of Inner Experience, and Non-reactivity to Inner Experience. The FFMQ has shown adequate psychometric properties and has been validated in Spanish samples (Cebolla *et alii*, 2012; Quintana Santana, 2016).

*Maslach Burnout Inventory* (MBI: Maslach *et alii*, 1996). Burnout was assessed using the MBI, a 22-item self-report questionnaire measuring Emotional Exhaustion, Depersonalization, and Personal Accomplishment. The MBI has been extensively used in occupational research and validated in Spanish populations (Gil Monte & Peiró, 1999; García García *et alii*, 2007).

*Perceived Stress Scale* (PSS: Cohen *et alii*, 1983). Perceived stress was measured using the PSS, a 14-item self-report measure rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often), with higher scores indicating greater perceived stress. Previous Spanish validation studies have supported its reliability and validity (Remor & Carrobles, 2001; Remor, 2006).

*Course Evaluation Questionnaire*. Participants completed a questionnaire, created specifically for use in this study, with 15-item Likert-type ranging from 1 (strongly disagree) to 5 (strongly agree), assessing satisfaction with course content, methodology, perceived usefulness, applicability, and overall satisfaction.

*Knowledge Transfer Questionnaire*. Knowledge transfer was assessed using a questionnaire, created specifically for use in this study, evaluating perceived applicability in the workplace (4 items) and contribution to personal development (4 items). All items were rated on a 10-point Likert scale ranging from 1 (strongly disagree) to 10 (strongly agree).

*Home Practice Questionnaire*. Self-reported home practice was assessed using ad hoc questionnaires including items on formal and informal mindfulness practice. Formal practice was evaluated in terms of frequency (none, 1-3 times/week, 4-6 times/week, or every day) and mean duration of practice (5-10 minutes, 10-30 minutes, or more than 30 minutes). Informal practice frequency was assessed using four categories (never, sometimes, often, and very often). Additionally, four items assessed perceived effects on personal and professional well-being and the extent to which these effects were attributed to mindfulness practice.

### *Procedure*

Questionnaires were administered electronically at two time points: Prior to the start of the course (baseline) and at 12-week follow-up (12 weeks after completion of the program). Data were managed under strict conditions of anonymity and confidentiality.

All procedures complied with the General Data Protection Regulation (EU) 2016/679 and the Spanish Organic Law on Data Protection (LOPD 3/2018). Each participant was assigned an alphanumeric code, and datasets were anonymized by an independent professional not involved in the intervention. The study protocol was approved by the hospital's Bioethics Committee. No external funding was received, and the authors declared no conflicts of interest.

### *Intervention*

The intervention was based on the standardized MBCT program (Segal et alii, 2002), adapted for healthcare professionals. It consisted of one introductory theoretical session, eight experiential group sessions (2.5 hours each), and one follow-up session conducted 12 weeks after course completion, yielding a total of approximately 30 training hours.

Participants were encouraged to engage in daily home practice (approximately 30-45 minutes per day), including both formal meditation practices and informal mindfulness exercises integrated into daily activities.

### *Data Analysis*

Descriptive statistics were computed for participants who completed the program. Changes between baseline and follow-up scores were examined using paired-samples *t* tests. In addition, repeated-measures General Linear Models (GLM) were conducted to explore the influence of overall course evaluation and practice frequency as covariates on outcome changes. Pearson correlation coefficients were used to examine associations between mindfulness, perceived stress, and burnout measures. In addition to significance

testing, effect sizes were calculated to quantify the magnitude of baseline-to-follow-up changes. For paired-samples comparisons, Cohen's $d_z$ was computed as $d_z = t/\sqrt{n}$. Effect sizes were interpreted according to conventional benchmarks (0.20= small, 0.50= medium, 0.80= large), and statistical significance was set at $p < .05$. Analyses were performed using IBM SPSS Statistics for Windows (Version 24.0).

## Results

Over three editions of the MBCT course (2021-2023), fifty-one (83.6%) completed the program by attending at least 80% of sessions (mandatory requirement for certification). The sample was predominantly female (85%). Most participants were between 36 and 45 years old (45%), followed by those aged 26 to 35 (30%), over 45 years old (15%) and under 25 years old (10%). Regarding professional role, 57% were consultants, and 17 participants were residents/trainees in medicine, psychology, or nursing. Most participants ($n$= 47) performed clinical duties involving direct patient contact. Sample sizes varied across outcomes because only participants with complete data at both time points for each scale were included in corresponding analyses.

Regarding measures of Mindfulness, all FFMQ dimensions increased from baseline to 12-week follow-up (see Table 1). Statistically significant improvements were observed in Observing, Describing, Non-judging of inner experience, and Non-reactivity to inner experience, as well as in the total FFMQ score (all $p \leq .001$). Acting with awareness showed a non-significant trend toward improvement ($p$= .069). Effect sizes ranged from small to large, with the strongest change observed for total FFMQ (Cohen's $d_z$= 1.01) and Observing (Cohen's $d_z$= 0.94).

*Table 1*. Baseline and 12-week Follow-Up scores on the FFMQ.

| Variable | Baseline *M* (*SD*) | Follow-up *M* (*SD*) | *n* | *t* | *df* | *p* | Cohen's *dz* |
|---|---|---|---|---|---|---|---|
| Observing | 24.4 (4.4) | 29.0 (4.0) | 41 | -6.043 | 40 | <.001 | 0.94 |
| Describing | 27.3 (4.6) | 29.5 (4.5) | 42 | -3.441 | 41 | .001 | 0.53 |
| Acting with awareness | 22.6 (6.4) | 24.0 (4.0) | 39 | -1.874 | 38 | .069 | 0.30 |
| Non-judging of inner experience | 23.5 (8.9) | 26.7 (6.8) | 38 | -3.473 | 37 | .001 | 0.56 |
| Non-reactivity to inner experience | 20.7 (4.3) | 23.4 (4.0) | 40 | -4.193 | 39 | < .001 | 0.66 |
| Total score | 116.8 (18.6) | 131.7 (14.9) | 32 | -5.702 | 31 | < .001 | 1.01 |

*Note*: Paired-samples Student's *t* tests were used to compare baseline and 12-week follow-up scores.

Improvement in total FFMQ was significantly associated with more favorable overall course evaluation (GLM repeated measures: $F$= 9.565, $p$= .007). Adherence to home practice at 12-week follow-up did not significantly influence changes in total mindfulness (GLM repeated measures: $F$= 0.020 $p$= .889).

Burnout outcomes are presented in Table 2. Emotional exhaustion significantly decreased from baseline to 12-week follow-up ($p$= .042), with a small-to-moderate effect size (Cohen's $d_z$= 0.30). Depersonalization showed a small non-significant decrease ($p$= .495), and personal accomplishment showed a slight non-significant increase ($p$= .565).

Participants who rated the course more positively showed significantly greater improvement in emotional exhaustion (GLM repeated measures: $F$= 4.946, $p$= .034). No significant effects of course evaluation were found for depersonalization ($F$= 0.150, $p$= .702) or personal accomplishment ($F$= 0.029, $p$= .865). Adherence to home practice did not significantly affect changes in any burnout dimension.

*Table 2*. Baseline and 12-week Follow-Up scores on the MBI.

| Variable | Baseline *M* (*SD*) | Follow-up *M* (*SD*) | *n* | *t* | *df* | *p* | Cohen's *dz* |
|---|---|---|---|---|---|---|---|
| Emotional exhaustion | 25.5 (11.9) | 23.0 (9.3) | 48 | 2.090 | 47 | .042 | 0.30 |
| Depersonalization | 7.3 (4.3) | 6.9 (4.3) | 46 | 0.688 | 45 | .495 | 0.10 |
| Personal accomplishment | 37.3 (6.1) | 37.9 (6.6) | 47 | -0.580 | 46 | .565 | 0.08 |

*Note*: Paired-samples Student's *t* tests were used to compare baseline and 12-week follow-up scores.

Perceived stress significantly decreased from baseline ($M$= 27.4, $SD$= 8.4) to 12-week follow-up ($M$= 21.8, $SD$= 4.7), $t(26)$= 3.827, $p$= .001, with a medium-to-large effect size (Cohen's $d_z$= 0.74). When overall course evaluation was included as a covariate, improvement remained significant (GLM repeated measures: $F(1, 26)$= 11.995, $p$= .005). Adherence to home practice did not significantly influence changes in perceived stress (GLM repeated measures: $F(1, 26)$= 0.005, $p$= .946).

Correlation analyses at 12-week follow-up indicated that higher mindfulness was associated with lower perceived stress and selected burnout dimensions (see Table 3). In particular, the total FFMQ score at follow-up showed a strong negative association with perceived stress at follow-up ($r$= -.702, $p$ <.001). At the mindfulness dimensions level, higher Describing, Acting with awareness, and Non-reactivity scores were significantly associated with lower perceived stress. In addition, Acting with awareness was significantly associated with lower emotional exhaustion and depersonalization at follow-up.

Change-score correlation analyses (Δ= follow-up-baseline) provided further evidence of linked improvement patterns (see Table 4). Increases in total mindfulness were significantly associated with reductions in emotional exhaustion ($r$= -.509, $p$= .004). In addition, reductions in perceived stress were strongly associated with reductions in emotional exhaustion ($r$= .604, $p$= .001). The association between increases in mindfulness and reductions in perceived stress did not reach statistical significance ($r$= -.409, $p$= .066).

*Table 3.* Correlations between mindfulness (FFMQ) and burnout (MBI)/stress (PSS) at 12-week Follow-Up.

| FFMQ | MBI | | | PSS Total |
|---|---|---|---|---|
| | Emotional exhaustion | Depersonalization | Personal accomplishment | |
| Observing | .061 ($p$= .692) | .112 ($p$= .474) | .228 ($p$= .137) | -.222 ($p$= .286) |
| Describing | -.240 ($p$= .112) | .026 ($p$= .868) | .349 ($p$= .019) | -.514 ($p$= .009) |
| Acting with awareness | -.503 ($p$ <.001) | -.410 ($p$= .006) | .261 ($p$= .083) | -.399 ($p$= .048) |
| Non-judging of inner experience | -.229 ($p$= .136) | -.119 ($p$= .446) | .337 ($p$= .025) | -.290 ($p$= .169) |
| Non-reactivity to inner experience | .141 ($p$= .373) | .137 ($p$= .394) | .365 ($p$= .018) | -.667 ($p$= .001) |
| FFMQ Total score | -.237 ($p$= .140) | -.115 ($p$= .484) | .451 ($p$= .003) | -.702 ($p$ <.001) |

*Note*: Values are Pearson correlation coefficients ($r$) with two-tailed.

*Table 4*. Correlations between changes (Δ Baseline-FU) in mindfulness (FFMQ), burnout (MBI), and perceived stress (PSS)

| Variable | ΔMBI Emotional exhaustion | ΔMBI Depersonalization | ΔMBI Personal accomplishment | ΔPSS |
|---|---|---|---|---|
| ΔFFMQ Total score | -.509 ($p$= .004) | -.240 ($p$= .211) | -.077 ($p$= .686) | -.409 ($p$= .066) |
| ΔPSS | .604 ($p$= .001) | .247 ($p$= .235) | -.100 ($p$= .628) | - |

*Note*: Pearson correlation coefficients computed using change scores with two-tailed.

Formal mindfulness practice between sessions was reported by 50.0% of participants during the course and increased to 80.0% at Follow-Up. Informal practice was reported by 41.7% during the course and remained similar at Follow-Up (38.9%).

Most participants reported increased self-kindness and reduced self-criticism ($M$= 8.1, $SD$= 1.8, on a 0-10 scale). Nearly 90% reported valuing themselves more and being better able to recognize and meet their needs after completing the program.

All participants reported that course content was applicable to their work (all ratings >5/10). Additionally, 79.6% rated applicability above 8/10, 87.8% reported frequent application of learned strategies, and 91% identified new workplace situations in which mindfulness skills could be used. Regarding personal development, 89.8% reported improved professional performance and 79.7% increased motivation at work.

## DISCUSSION

The present study evaluated the effects of a standardized MBCT training program delivered to healthcare professionals within a hospital continuing education framework.

Overall, the findings indicate that the intervention was associated with significant improvements in mindfulness skills and significant reductions in perceived stress and emotional exhaustion. These results are consistent with previous research showing that mindfulness-based interventions can contribute to occupational wellbeing and burnout prevention among healthcare workers.

Participation in the program was followed by significant increases in overall mindfulness (FFMQ total) and in four specific facets (Observing, Describing, Non-judging, and Non-reactivity). The magnitude of change was substantial, with large effects observed for the total mindfulness score. This pattern is coherent with the theoretical model underlying MBCT, which aims to strengthen present-moment attention and the ability to relate differently to thoughts and emotions, particularly through decentering and reduced reactivity (Segal *et alii*, 2002; Kabat-Zinn, 1982, 2016). These mindfulness gains are comparable to those reported in prior MBCT studies with healthcare staff and mental health professionals (Askey-Jones, 2018; Strauss et alii, 2021). In particular, the consistent improvement in facets such as Non-reactivity and Non-judging suggests that participants may have acquired skills relevant for managing difficult internal experiences in high-pressure clinical environments. The non-significant change in Acting with awareness could reflect the fact that this facet may require longer practice consolidation or may be less sensitive to change during busy clinical routines. This is also consistent with the heterogeneity in facet-level outcomes often observed in applied mindfulness research.

Burnout outcomes showed the clearest improvement in emotional exhaustion, with a statistically significant reduction and a small-to-moderate effect size. In contrast, depersonalization and personal accomplishment did not change significantly. This profile is consistent with a substantial portion of the literature, in which emotional exhaustion frequently emerges as the burnout dimension most responsive to mindfulness interventions (Hamilton-West *et alii*, 2018; Xie *et alii*, 2020; Kim & Hunter, 2023). Emotional exhaustion is often considered the core affective component of burnout, and reductions may reflect improved stress regulation and reduced cumulative fatigue. The lack of significant changes in depersonalization and personal accomplishment is also consistent with previous findings suggesting that these dimensions may depend on broader organizational factors, interpersonal climate, and workload characteristics that extend beyond the scope of individual-focused interventions. For example, Kim and Hunter (2023) reported that personal accomplishment did not significantly change following a brief mindfulness program. It is possible that improvements in professional efficacy and accomplishment require longer intervention exposure, additional workplace-level changes, or longer follow-up periods for changes to become detectable.

Perceived stress decreased significantly from baseline to 12-week follow-up, with a medium-to-large effect size. This finding supports the effectiveness of MBCT for stress reduction and aligns well with previous studies in healthcare workers, including general practitioners and intensive care nurses (Hamilton-West *et alii*, 2018; Xie *et alii*, 2020), as well as broader occupational meta-analytic evidence indicating reductions in stress and psychological distress following mindfulness-based interventions (Janssen *et alii*, 2018; Khoury *et alii*, 2013, 2015).

The magnitude of stress reduction observed is clinically relevant given the high levels of occupational demands and limited recovery opportunities often faced by healthcare professionals. Perceived stress reduction may represent a key pathway through which mindfulness interventions indirectly influence burnout outcomes, particularly emotional exhaustion.

Correlation analyses further supported theoretically consistent relationships among mindfulness, stress, and burnout. At 12-week follow-up, higher mindfulness was strongly associated with lower perceived stress, particularly for the overall mindfulness score

and the facets related to awareness and emotional regulation (see Table 3). This pattern is consistent with the proposed mechanisms of MBCT, whereby increases in present-moment attention and reduced cognitive-emotional reactivity may buffer occupational stress and its burnout-related consequences. Importantly, the change-score analysis (see Table 4) showed that increases in total mindfulness were significantly associated with reductions in emotional exhaustion, suggesting that mindfulness gains may play a mechanistic role in burnout-related improvement. Additionally, reductions in perceived stress were strongly associated with reductions in emotional exhaustion, reinforcing the conceptual link between stress experience and burnout fatigue.

Mindfulness dimensions also provide clinically meaningful insights. For example, Describing was strongly associated with lower perceived stress, which may reflect the role of emotional labeling and clarity in emotion regulation. Similarly, Non-judging and Acting with awareness were negatively related to stress. These findings are broadly compatible with models proposing that mindful awareness may reduce stress via decreased rumination, reduced experiential avoidance, and greater cognitive-emotional flexibility (Gu *et alii*, 2015; Strauss *et alii*, 2021). In Strauss *et alii* (2021), increases in mindfulness and self-compassion mediated improvements in stress and wellbeing, which supports the plausibility of similar mechanisms operating in the present sample.

An important additional contribution of this study is the exploration of potential covariates of outcome change. Participants' overall course evaluation was associated with greater improvement in total mindfulness scores and greater reduction in emotional exhaustion and perceived stress. This may indicate that acceptability, satisfaction, and perceived usefulness enhance engagement with training content and increase the likelihood that participants integrate mindfulness skills into everyday practice. These findings complement qualitative reports from healthcare samples indicating improved coping, relaxation, empathy, and enjoyment at work following MBCT training (Hamilton-West *et alii*, 2018).

In contrast, adherence to home practice at 12-week follow-up did not significantly explain outcome changes. This result differs from previous research emphasizing the importance of ongoing practice for maintaining benefits (Parsons *et alii*, 2017; Kim & Hunter, 2023). However, several factors may account for this discrepancy. First, practice adherence was measured through self-report and may have limited precision. Second, the Follow-Up measure may not fully capture the intensity, quality, or consistency of practice across the intervention period. Third, there may have been restricted variability in practice adherence in this sample, particularly given the generally high levels of reported practice at follow-up. Another explanation is that participation in the training may have fostered more stable changes in participants' daily coping style -such as greater awareness, acceptance, and a different way of relating to stressful events- so that part of the benefit may be maintained even without high levels of formal practice after the course. Future research may benefit from more detailed practice monitoring (e.g., daily logs, app-based tracking) and from examining whether specific types of practice (formal vs. informal) show different associations with outcomes.

The intervention showed strong feasibility in a real-world context, as evidenced by high completion rates and positive participant-reported outcomes regarding applicability and knowledge transfer. Participants reported increased self-kindness and reduced self-criticism, which is consistent with MBCT-related processes that overlap with self-compassion development. High applicability ratings and frequent reported use in clinical contexts suggest that participants perceived the program as relevant and implementable, reinforcing the potential value of MBCT as part of institutional staff wellbeing initiatives.

These findings also connect with the broader literature suggesting that mindfulness training may enhance therapeutic presence, empathy, and relational quality (Braun *et*

*alii*, 2019; Spinelli *et alii*, 2019). While this study did not include objective measures of patient outcomes, the reported transfer of skills to work situations indicates that mindfulness interventions may influence professional functioning in ways that deserve further investigation.

Several limitations of our study should be considered. First, the study employed a single-group pre-follow-up design without a control condition, limiting causal inference. Improvements may partly reflect regression to the mean, expectancy effects, or general time-related factors. Second, sample sizes varied across outcomes due to missing data, which may have reduced statistical power in some analyses. Third, the study relied on self-report measures and did not include objective indicators such as physiological markers of stress. This is notable given that previous work has included biomarkers such as hair cortisol to provide converging evidence for stress reduction (Fendel *et alii*, 2020). Finally, although a 12-week follow-up provides important information about sustained effects beyond immediate post-course measurement, longer follow-up periods are needed to evaluate long-term maintenance, as reported in some prior studies (Askey-Jones, 2018; Xie *et alii*, 2020; Kim & Hunter, 2023).

Future research should prioritize controlled trials, improved methodological consistency, and larger samples, as highlighted in systematic reviews noting heterogeneity and methodological limitations in the field (Klein *et alii*, 2020; Sulosaari *et alii*, 2022). Additionally, research should explore dose-response relationships and compare standard programs with shorter or adapted formats, particularly given increasing interest in brief interventions suitable for busy clinical environments (Kim & Hunter, 2023). Including objective markers of stress, as well as measures of patient-related outcomes and organizational indicators, would strengthen conclusions regarding the broader impact of MBCT in healthcare settings.

In summary, this study provides evidence that MBCT delivered as a continuing education program for healthcare professionals was associated with significant improvements in mindfulness and significant reductions in perceived stress and emotional exhaustion. These findings are broadly consistent with the existing literature on mindfulness-based interventions in healthcare settings and support the integration of MBCT as a feasible and potentially effective component of occupational wellbeing and burnout prevention initiatives. Despite the limitations inherent to the study design, the results contribute to the growing evidence base suggesting that mindfulness-based training can enhance psychological resources and reduce distress among healthcare professionals.

## References

Askey-Jones R (2018). Mindfulness-based cognitive therapy: An efficacy study for mental health care staff. *Journal of Psychiatric and Mental Health Nursing, 25*, 7, 380-389. Doi: 10.1111/jpm.12472

Baer RA (2003). Mindfulness training as a clinical intervention: A conceptual and empirical review. *Clinical Psychology: Science and Practice, 10*, 2, 125-143.

Baer RA, Smith GT, Hopkins J, Krietemeyer J, & Toney L (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13,* 1, 27-45. Doi: 10.1177/1073191105283504

Bishop SR, Lau M, Shapiro S, Carlson L, Anderson ND, Carmody J, Segal ZV, Abbey S, Speca M, Velting D, & Devins G (2004) Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice, 11,* 3, 230-241. Doi: 10.1093/clipsy.bph077

Braun SE, Kinser PA, & Rybarczyk B (2019). Can mindfulness in health care professionals improve patient care? An integrative review and proposed model. *Translational Behavioral Medicine, 9,* 2, 187-201. Doi: 10.1093/tbm/iby059

Cebolla A, García-Palacios A, Soler J, Guillén V, Baños R, & Botella C (2012). Psychometric properties of the Spanish validation of the Five Facets of Mindfulness Questionnaire (FFMQ). *The European Journal of Psychiatry,*

*26,* 2, 118-126. Doi: 10.4321/S0213-61632012000200005

Cohen S, Kamarck T, & Mermelstein R (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24,* 4, 385-396. Doi: 10.2307/2136404

Fendel JC, Aeschbach VM, Göritz AS, & Schmidt S (2020). A mindfulness program to improve resident physicians' personal and work-related well-being: A feasibility study. *Mindfulness, 11,* 6, 1511-1519. Doi: 10.1007/s12671-020-01366-x

García García JM, Herrero Remuzgo S, & León Fuentes JL (2007). Validez factorial del Maslach Burnout Inventory (MBI) en una muestra de trabajadores del Hospital Psiquiátrico Penitenciario de Sevilla. *Apuntes de Psicología, 25,* 2, 157-174. Doi: 10.55414/tanfbb17

Gil-Monte PR, & Peiró MJ (1999). Perspectivas teóricas y modelos interpretativos para el estudio del síndrome de quemarse por el trabajo. *Anales de Psicología, 15,* 2, 261-268.

Gu J, Strauss C, Bond R, & Cavanagh K (2015). How do mindfulness-based cognitive therapy and mindfulness-based stress reduction improve mental health and wellbeing? A systematic review and meta-analysis of mediation studies. *Clinical Psychology Review, 37*, 1-12. Doi: 10.1016/j.cpr.2015.01.006

Hamilton-West K, Pellatt-Higgins T, & Pillai N (2018). Does a modified mindfulness-based cognitive therapy (MBCT) course have the potential to reduce stress and burnout in NHS GPs? Feasibility study. *Primary Health Care Research & Development, 19,* 6, 591-597. Doi: 10.1017/S1463423618000129

Janssen M, Heerkens Y, Kuijer W, van der Heijden B, & Engels J (2018). Effects of mindfulness-based stress reduction on employees' mental health: A systematic review. *PLoS ONE, 13,* 1, e0191332. Doi: 10.1371/journal.pone.0191332

Kabat-Zinn J (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4,* 1, 33-47. Doi: 10.1016/0163-8343(82)90026-3

Kabat-Zinn J (2016). *Vivir con plenitud las crisis* (2nd Spanish ed.), Barcelona: Kairós.

Khoury B, Lecomte T, Fortin G, Masse M, Therien P, Bouchard V, Chapleau MA, Paqin K, & Hofmann G (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review, 33,* 6, 763-771. Doi: 10.1016/j.cpr.2013.05.005

Khoury B, Sharma M, Rush SE, & Fournier C (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic Research, 78,* 6, 519-528. Doi:10.1016/j.jpsychores.2015.03.009

Kim S, & Hunter S (2023). Can brief online mindfulness programs mitigate healthcare workers' burnout amid the COVID-19 pandemic? *Mindfulness, 14,* 8, 1930-1939. Doi: 10.1007/s12671-023-02145-1

Klein A, Taieb O, Xavier S, Baubet T, & Reyre A (2020). The benefits of mindfulness-based interventions on burnout among health professionals: A systematic review. *Explore, 16,* 1, 35-43. Doi: 10.1016/j.explore.2019.09.002

Lomas T, Medina JC, Ivtzan I, Rupprecht S, & Eiroa-Orosa FJ (2019). A systematic review and meta-analysis of the impact of mindfulness-based interventions on the well-being of healthcare professionals. *Mindfulness, 10,* 7, 1193-1216. Doi: 10.1007/s12671-018-1062-5

Maslach C, Jackson SE, & Leiter MP (1996). *Maslach Burnout Inventory manual* (3rd ed.). Consulting Psychologists Press.

Parsons CE, Crane C, Parsons LJ, Fjorback LO, & Kuyken W (2017). Home practice in Mindfulness-Based Cognitive Therapy and Mindfulness-Based Stress Reduction: A systematic review and meta-analysis of participants' mindfulness practice and its association with outcomes. *Behaviour Research and Therapy, 95*, 29-41. Doi: 10.1016/j.brat.2017.05.004

Quintana-Santana BM (2016). *Evaluación del mindfulness: Aplicación del cuestionario Mindfulness de cinco facetas (FFMQ) en población española* (Tesis Doctoral). Universidad Complutense de Madrid.

Remor E (2006). Psychometric properties of a European Spanish version of the Perceived Stress Scale (PSS). *The Spanish Journal of Psychology, 9,* 1, 86-93. Doi: 10.1017/S1138741600006004

Remor E, & Carrobles JA (2001). Validación de la versión española de la escala de estrés percibido (PSS-14). *Ansiedad y Estrés, 7,* 1, 55-76.

Rodriguez-Vega B, López-Muñoz F, & García-Rodríguez J (2020). Implementation of a mindfulness-based crisis intervention for frontline healthcare workers during the COVID-19 outbreak in a public general hospital in Madrid, Spain. *Frontiers in Psychiatry, 11*, 562578. Doi: 10.3389/fpsyt.2020.562578

Segal ZV, Williams JM G, & Teasdale JD (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford Press.

Shapiro SL, Austin JA, Bishop SR, & Cordova M (2005). Mindfulness-Based Stress Reduction for health care professionals: Results from a randomized trial. *International Journal of Stress Management, 12,* 2, 164-176. Doi: 10.1037/1072-5245.12.2.164

Shapiro SL, Brown KW, & Biegel GM (2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology, 1,* 2, 105-115. Doi: 10.1037/1931-3918.1.2.105

Spinelli C, Wisener M, & Khoury B (2019). Mindfulness training for healthcare professionals and trainees: A meta-analysis of randomized controlled trials. *Journal of Psychosomatic Research, 120*, 29-38. Doi: 10.1016/j.jpsychores.2019.03.003

Strauss C, Gu J, Montero-Marin J, Whittington A, Chapman C, & Kuyken W (2021. Reducing stress and promoting well-being in healthcare workers using mindfulness-based cognitive therapy for life. *International Journal of Clinical and Health Psychology, 21,* 2, 100227. Doi: 10.1016/j.ijchp.2021.100227

Sulosaari V, Unal E, & Cinar FI (2022). The effectiveness of mindfulness-based interventions on the psychological wellbeing of nurses: A systematic review. *Applied Nursing Research, 64*, 151565. Doi: 10.1016/j.apnr.2022.151565

Xie C, Zeng Y, Lv Y, Li X, Xiao J, & Hu X (2020). Educational intervention versus mindfulness-based intervention for ICU nurses with occupational burnout: A parallel, controlled trial. *Complementary Therapies in Medicine, 52*, 102485. Doi: 10.1016/j.ctim.2020.102485

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