

Mindfulness in maternity: Evaluation of a course for midwives

Abstract

Stress and burnout are endemic in the NHS and the midwifery profession, having a negative impact on the health and wellbeing of individual midwives and on retention and recruitment for the profession as a whole. Stress can also have a negative impact on the care of women as midwives seek to manage their stress levels by employing strategies such as task orientation. As part of a larger project to engage staff in personal and workplace wellbeing, the Oxford University Hospitals NHS Foundation Trust maternity services provided staff with the opportunity to learn the practice of mindfulness meditation. An 8-week course was made available with the intention of supporting staff to manage stress and anxiety, increase resilience and self-compassion, and improve the culture of the organisation as a whole. Evaluations carried out immediately post-course and after 4–6 months indicated a positive impact in both personal and organisational domains.

Keywords: Mindfulness, Stress, Burnout, Resilience, Wellbeing, Midwives, Training, Evaluation

There is increasing literature to suggest that mindfulness-based interventions may address a variety of psychological problems (e.g. Grossman et al, 2004; Dimidjian and Goodman, 2009; Duncan and Bardacke, 2010; Dunn et al, 2012; Liu et al, 2013; Surawy et al, 2014). Mindfulness-based stress reduction (MBSR) is a particularly helpful intervention for stress (Shapiro et al, 2005; Chiesa and Serretti, 2009). As well as its impact on specific problems, mindfulness has been shown to have an effect on underlying emotional and social skills; these include the ability to feel in control, to manage difficult feelings, and to be calm, resilient, compassionate and empathic (Baer, 2003; Salmon et al, 2004; Jha et al, 2007; Chambers et al, 2008; Zeidan et al, 2010).

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The neurological benefits of mindfulness practice have been linked to an increase in emotional intelligence, specifically empathy and self-regulation (Kabat-Zinn, 2003; Taren et al, 2013; Tang et al, 2014). The development of these areas contributes to an ability to listen, be more responsive and communicate more effectively. Mindfulness training, therefore, has the potential both to help midwives cope with workplace stress and to enable them to provide more compassionate care. This paper defines and discusses the concept of mindfulness before outlining its relevance to midwifery practice. Mindfulness courses offered to midwives at the Oxford University Hospitals NHS Foundation Trust (OUHFT) are then described, and the results of the course evaluations are presented.

Mindfulness

Mindfulness meditation originates from Eastern traditions, and its recent popularity in Western psychology is largely due to the development and widespread application of standardised mindfulness-based interventions (MBIs). MBIs integrate the essence of traditional mindfulness practice with contemporary psychological practice to improve physical and psychological functioning and wellbeing (Gu et al, 2015). Mindfulness-based approaches in health care are often accredited to beginning in the US, with Jon Kabat-Zinn's pioneering MBSR programme. A development of this programme, mindfulness-based cognitive therapy (MBCT), is now a recognised way of reducing the risk of recurrence in depression (National Institute for Health and Care Excellence (NICE), 2009).

Mindfulness is cultivated through a range of formal and informal meditation practices, which include mindfulness of breath, thoughts, bodily sensations, sounds and everyday activities. Cultivating mindfulness enables practitioners to examine the way they think and feel about their experiences, especially stressful experiences, and increases engagement with the present moment, allowing for a clearer understanding of how thoughts and emotions can have an impact on health and quality of life (Warriner et al, 2012). As a capacity of attention and awareness

oriented to the present moment, mindfulness is now widely considered to be an inherent quality of human consciousness. The capacity for mindfulness varies in degree within and between individuals, and can be assessed empirically and independent of religious, spiritual, or cultural beliefs (Black, 2011). Mindful awareness was characterised by Kabat-Zinn (2005) as purposeful and nonjudgemental, and it is defined by the Oxford Mindfulness Centre (2016) as

‘the awareness that emerges through paying attention on purpose, in the present moment, with compassion, and open-hearted curiosity. Through cultivating mindful awareness, we discover how to live in the present moment rather than brooding about the past or worrying about the future.’

Studies involving a range of conditions—from anxiety and depression to cancer—have found that people who learn mindfulness are less likely to get anxious or depressed and more likely to experience positive changes in wellbeing (Teasdale et al, 2000; Kuyken et al, 2008; Godfrin and van Heeringen, 2010; Hofmann et al, 2010; Green and Bieling, 2012). Mindfulness-based interventions do not target symptom reduction as a goal; rather, their primary aim is to increase people’s ‘psychological flexibility’ (Dunn et al, 2012). This refers to an individual’s capacity to make choices in accordance with their authentic values, despite the symptoms they may be experiencing (Hayes et al, 1999). It also helps participants to be calm, resilient, compassionate and empathic (Baer, 2003; Salmon et al, 2004). Paradoxically, research continues to demonstrate that, often, as a result of improved psychological flexibility there is a reduction in symptoms (Williams et al, 2007).

Brain imaging studies on adults are showing that mindfulness meditation reliably and profoundly alters the structure and function of the brain to improve the quality of both thought and feeling (Davidson and Lutz, 2008). Although the most striking changes are observable in long-term meditators, brain changes are clearly observable in people who have only been meditating for 8 weeks for an average of 30 minutes a day.

Workplace stress

Workplace stress has been a feature of both nursing and midwifery practice for many years, with observational studies repeatedly stating that inpatient care in particular is often provided in a fragmented fashion by time-pressed staff juggling

competing demands in a highly pressured, chaotic environment (McGrath et al, 1989; Deery, 2005; Kirkham, 2007; McLachlan et al, 2008; Deery and Hunter, 2010; Kessler and Griffin, 2013). These challenges have been exacerbated in midwifery in the UK in recent years by a rising birth rate, a national shortage of midwives and a growing number of women entering pregnancy with complex social and physical needs (Hunter and Warren, 2014). Overstretched maternity services are a trend shared with other countries, and have resulted in time-pressed, frustrated and exhausted midwives—potentially leading to a rushed, brusque or chaotic approach to care (Lindberg et al, 2005; Dykes, 2006; McLachlan et al, 2008; McKellar et al, 2009; Deery and Hunter, 2010). Recent observational research found that time pressures on a UK postnatal ward were exacerbated by midwives having little control over their time, the organisation of their space or access to the women in their care (Hunter, 2014; Hunter et al, 2015). This was evidenced in frequent interruptions to midwives’ work by colleagues wanting information or assistance, and a large number of professional and lay visitors to inpatients, which sometimes prevented midwives accessing women to provide care (Hunter et al, 2015).

Workplace stress is generally understood to result from a combination of a high level of demand and little control over one’s activities (Savery and Luks, 2001; Hunter and Warren, 2013). In addition, coping with daily ‘hassles’ such as frequent interruptions is more strongly correlated with stress than facing major life events (Lazarus and Folkman, 1987). Prolonged exposure to stress can lead to burnout, a syndrome particularly associated with caring professions, characterised by exhaustion, a lack of motivation and accomplishment, and depersonalisation of—or even callousness towards—service users (Haslam and van Dick, 2011). Even without burnout, stress can negatively affect patient encounters, as midwives struggle to reconcile a professional philosophy of being ‘with woman’ with a daily requirement to meet institutional demands (Hunter, 2004). This struggle is evident in the following quote from a maternity support worker (Hunter et al, 2015: 802):

‘You’re trying to help somebody breastfeed but you’re also running the clinic, and you’ve got buzzers going off, and you’re meant to be doing this, and you’re doing that—you haven’t—even when you’re standing with somebody trying to help, in your head you’re going

“Oh my God, I should be doing this, I should be doing this, I should be doing this”—and you just can’t... relax and actually... be able to give that woman the help that you’re meant to be.’

A number of strategies are reportedly used by midwives to cope with workplace stress, including task orientation and reductionism. Task orientation involves reducing one’s workload to a series of tasks, such as dispensing drugs and performing routine observations, while neglecting the provision of emotional support. In a reductionist approach, verbal encounters with women are reduced to a series of set-piece monologues, described by Mavis Kirkham (1989: 125) as the ‘linguistic non-touch technique’ (Hunter et al, 2008; McLachlan et al, 2008; McKellar et al, 2009; Deery and Hunter, 2010; Hunter et al, 2015). Both of these strategies have a negative impact on patient care. More recently, resilience has been explored as a coping mechanism for midwives (Hunter and Warren, 2014). However, although not compromising care, resilience arguably enables midwives to cope with the way things are, rather than improving their working environment or the care they provide. Mindfulness offers an alternative coping strategy that has the potential to improve working conditions and patient care by enabling midwives to exercise more control over their working day and make different choices (Hunter, 2016).

Mindfulness has been found to reduce stress and lessen symptoms of burnout in different populations of health professionals, including student and qualified doctors, nurses and psychologists (Collard et al, 2008; Warnecke et al, 2011; Di Benedetto and Swadling 2014; Gauthier et al, 2014; Song and Lindquist, 2015). However, only one study to date, conducted in Australia, has specifically included midwives (Foureur et al, 2013). This study looked at the effects on resilience in 20 nurses and 20 midwives of a 1-day mindfulness workshop and undertaking to meditate daily for 8 weeks. Participants completed a number of psychological questionnaires before and after the mindfulness training. Although significant improvements were registered in participants’ general health, sense of coherence and stress even after this limited amount of training, the effects on the midwives were not differentiated from those on their nursing colleagues. Given the unique stressors faced by midwives as autonomous practitioners seeking to provide holistic care within a medicalised model, there is a need to investigate the potential of mindfulness training for midwifery practice.

The Oxford Mindfulness in Maternity project

Since 2010, the OUHFT maternity service, in conjunction with the University of Oxford Mindfulness Centre (OMC), has been running a small but innovative project—the first in the UK—to introduce and research the Mindfulness-Based Childbirth and Parenting (MBCP) programme.

The midwives working on the antenatal project have all reported personal benefit from learning mindfulness skills and have seen first-hand, in the teaching of the antenatal programme, the benefits it offers to pregnant women and their families (Warriner et al, 2012). Offering the opportunity to learn mindfulness skills to the wider maternity workforce has provided a training pathway for midwives, increasing awareness of mindfulness and improving understanding of the project as well as potentially providing individual and organisational benefit. This latter aspiration aligned well with a current OUHFT maternity services initiative aimed at improving personal and workplace wellbeing. Funding for the mindfulness course to be offered to midwives was made available through a Health Education Thames Valley post-doctoral clinical fellowship award, and the OUHFT maternity directorate approved the project.

The course

The course—Mindfulness: Finding Peace in a Frantic World, by Mark Williams and Danny Penman (2011)—has been delivered to students at the University of Oxford and OUHFT staff by the OMC. The course is particularly designed for individuals who do not have a clinical diagnosis of stress or depression, but who nevertheless may be experiencing stress in their lives. It is an adapted form of the traditional MBCT programme and runs over 8 weeks, typically 60–90 minutes a week, providing an introduction to mindfulness for beginners. Participants are taught formal and informal mindfulness practices at a weekly class. They are encouraged to follow the course outline in Williams and Penman’s (2011) book and commit to 30 minutes of home practice daily for 6 days of the week. At each weekly class, participants are invited to discuss their experience of home practice, but no formal measure of compliance is used.

Course participants

In 2015, three Frantic World courses were offered to OUHFT maternity staff. The courses were advertised across the service and 46 participants were recruited, with 43 completing the course. Participants were a mixture of hospital (30%),

community (30%) and research midwives (9%), maternity support workers (18%), student midwives (9%), doctors (2%) and lecturers (2%). One participant did not complete due to sickness and two participants left the course after week 2. The 43 participants who completed the course attended an average of 87% of available sessions (range 50–100%). Non-attendance was due to a mixture of unavailability due to work shifts, holidays and sickness.

Method

Immediately post-course, participants were asked to evaluate the course; the response rate was 79% ($n=34$). Participating staff were then invited to complete a follow-up questionnaire 4–6 months after attending the mindfulness course, with a response rate of 53% ($n=23$). Completion of the post-course evaluation and follow-up was voluntary and anonymous.

Results

Immediate post-course evaluation

Immediate post-course evaluation of satisfaction was very positive, with 97% of participants reporting they found the course helpful, useful and would recommend it to others. Participants were asked to rate the course based on six questions, using a five-point Likert scale where 0=never or very rarely true, 1=rarely true, 2=sometimes true, 3=often true, and 4=very often or always true.

The course was helpful to me

Ninety-seven per cent ($n=33$) of respondents answered either 3 or 4, indicating they thought this often or always true, with one participant feeling this was sometimes true (Figure 1).

The content of the course was interesting

All respondents (100%, $n=34$) indicated that they thought this often or always true (Figure 2).

The content of the course was useful

The majority of respondents (97%, $n=33$) answered either 3 or 4, indicating they thought this often or always true, with one participant feeling this was sometimes true (Figure 3).

The course was well structured

All respondents (100%, $n=34$) indicated that they thought this often or always true (Figure 4).

The course was well taught

All respondents (100%, $n=34$) answered either 3 or 4, indicating they thought this often or always true (Figure 5).

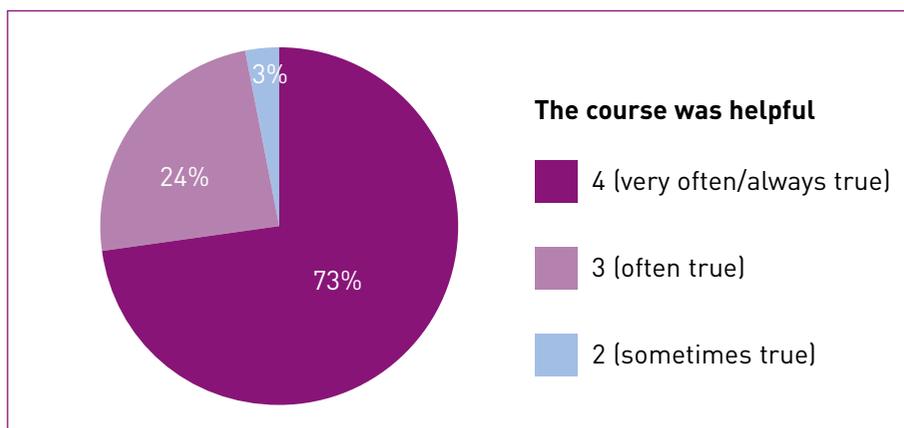


Figure 1. Responses to: 'The course was helpful to me'

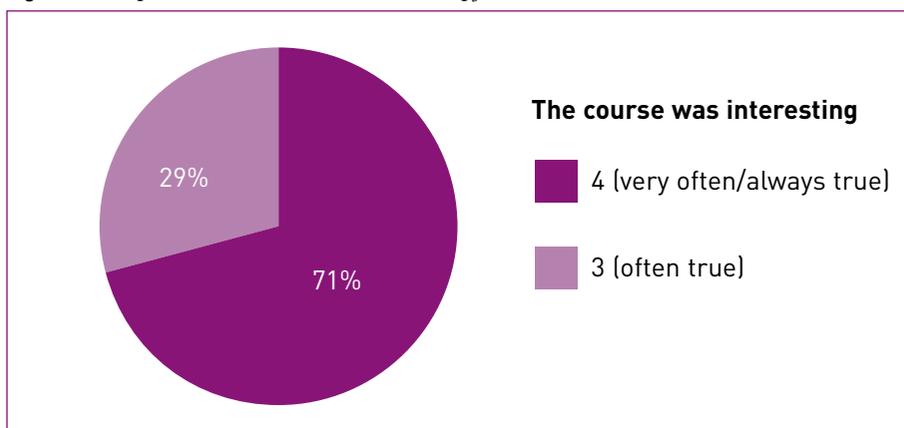


Figure 2. Responses to: 'The content of the course was interesting'

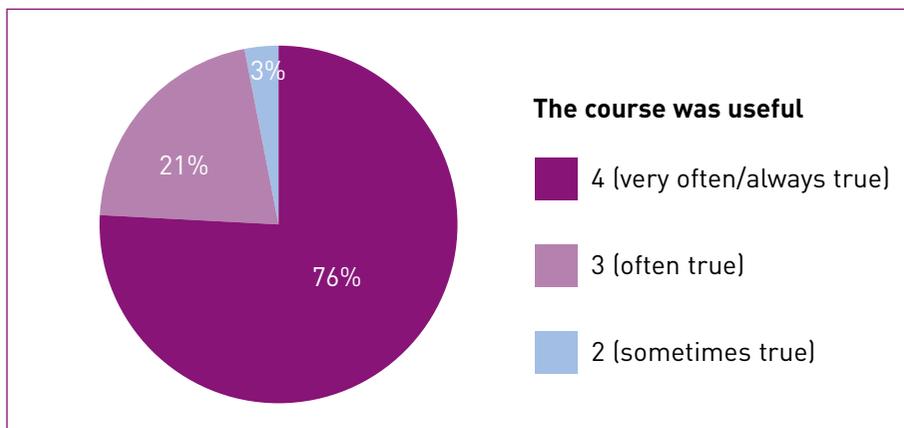


Figure 3. Responses to: 'The content of the course was useful'

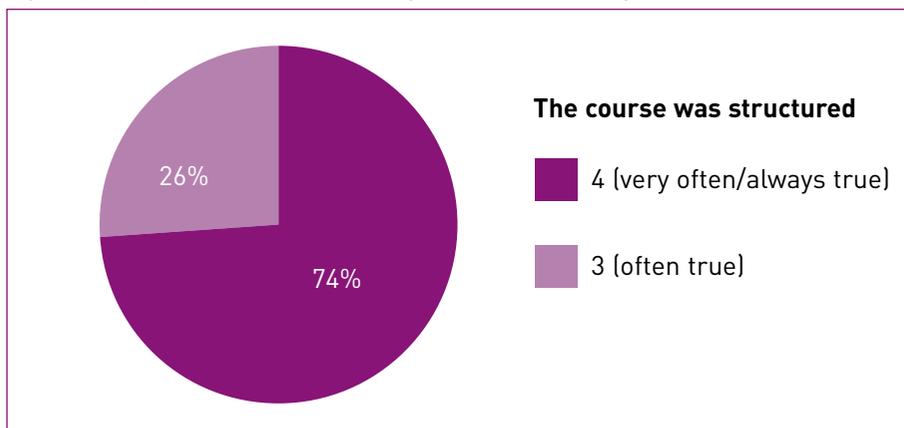


Figure 4. Responses to: 'The course was well structured'

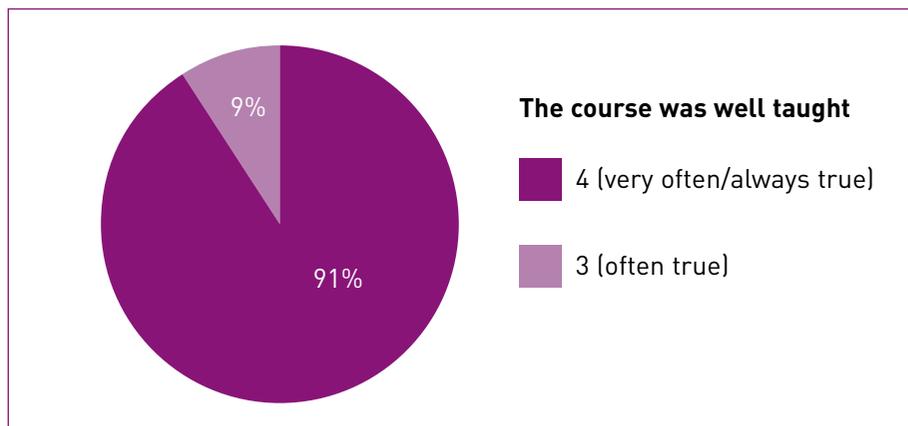


Figure 5. Responses to: 'The course was well taught'

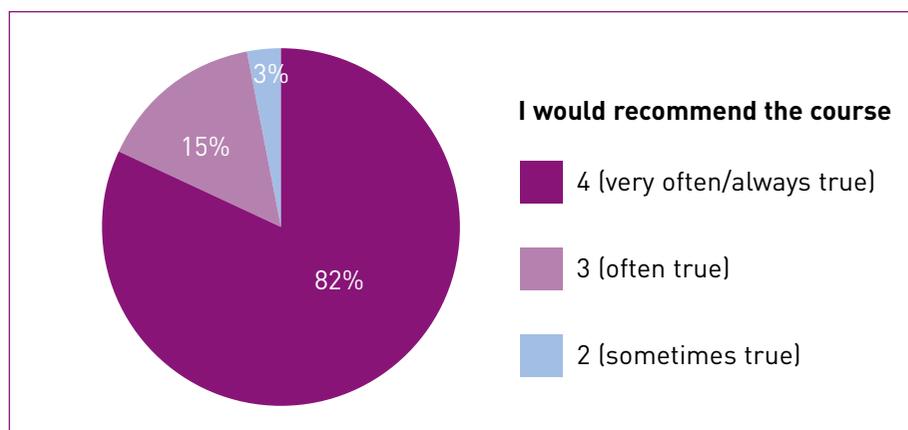


Figure 6. Responses to: 'I would recommend the course to others'

I would recommend the course to others

Most respondents (97%, n=33) answered either 3 or 4, indicating they thought this often or always true, with one participant feeling this was sometimes true (Figure 6).

4-6 month post-course questionnaire

The follow-up questionnaire had a response rate of 53% (n=23). Ongoing benefit was demonstrated at 4-6 months, with the majority of respondents

reporting a sustained positive impact on stress (83%, n=19), anxiety (68%, n=15), resilience (70%, n=16), self-compassion (74%, n=17) and mindfulness (91%, n=21). Of the participants who reported that depression was relevant to them, 50% (n=6) reported a positive impact (Table 1). Respondents reported benefit in home life (87%, n=20) work life (91%, n=21) and the culture of their workplace (59%, n=13) (Table 2), with the majority of participants using the skills they had learnt either weekly or daily (Table 3).

Discussion

The impact of workplace stress has been extensively reported and researched over the last decade, but it is only recently that organisations have been taking active steps to improve the culture of the workplace. Midwifery is about human relationships, and the development of coping and interpersonal skills necessary to deal with the sometimes stressful nature of midwives' work is essential.

This project is the first to evaluate the effects of mindfulness training on midwives in the UK. Findings indicate that midwives found mindfulness training helpful and useful, and that it benefited their home and work lives and workplace culture. The sustained impact found on stress, anxiety, resilience, self-compassion and mindfulness resonates with other pre- and/or post-test research on the impact of mindfulness on health professionals in other countries. In the only other study to date to include midwives, Foureur et al (2013) found that a brief mindfulness intervention reduced stress in participants. Studies on nurses and medical students have also noted decreased stress in participants after taking a mindfulness course (Mackenzie et al, 2006; Penque, 2009; Bond et al, 2013; Lan et al, 2013; Gauthier et al, 2014; Harwani

Table 1. Impact of mindfulness course

Please rate how you feel participating in the mindfulness course impacted on you	Not relevant n (%)	Negative impact n (%)	No impact n (%)	Positive impact n (%)	Total n
Stress	1 (4.35)	0 (0.00)	3 (13.04)	19 (82.61)	23
Anxiety	3 (13.64)	0 (0.00)	4 (18.18)	15 (68.18)	22
Depression	9 (42.86)	0 (0.00)	6 (28.57)	6 (28.57)	21
Resilience	0 (0.00)	0 (0.00)	7 (30.43)	16 (69.57)	23
Self-Compassion	1 (4.35)	0 (0.00)	5 (21.74)	17 (73.91)	23
Mindfulness	0 (0.00)	0 (0.00)	2 (8.70)	21 (91.30)	23

Response rate 53% (n=43)

et al, 2014). Similarly, studies on nursing and medical students and qualified nurses have found decreased levels of anxiety and increased self-compassion (Mackenzie et al, 2006; Penque, 2009; Bond et al, 2013; Chen et al, 2013; Lan et al, 2013; Erogul et al, 2014). Mindfulness levels were found to increase in nurses undergoing mindfulness training in three studies, one of which (Palmer, 2010) was conducted in the UK (Penque, 2009; Palmer, 2010; Lan et al, 2013). Resilience is the one factor with less positive results elsewhere: Erogul et al (2014) found no change in responses on a resilience scale pre- and post-attendance at an 8-week mindfulness course among 58 first-year medical students. Findings from randomised controlled trials (RCTs) are also more varied, perhaps because of the difficulties inherent in measuring wide-ranging and non-specific changes using a very precise instrument, and because to date, mindfulness interventions have been trialled using small sample sizes. A Columbian RCT involving 83 health professionals (including doctors, nurses, other helping professionals and scientists) noted reductions in stress and anxiety among those receiving mindfulness training (Manotas et al, 2014). Similarly, in the US, Shapiro et al (2005) noted significant reductions in stress in a pilot RCT of a mindfulness intervention which included 28 health professionals. However, Moody et al (2013) found no significant improvements in burnout or perceived stress in the intervention group of their RCT looking at a mindfulness intervention for a group comprised mainly of nurses in the US and Israel.

The weight of quantitative research supports the findings of the current project and indicates that mindfulness can have a positive impact on midwifery practice. However, there is currently a paucity of qualitative research looking at the effects of mindfulness on nursing and midwifery practice. Such research could illuminate the mechanisms through which mindfulness facilitates change. The evidence that is available suggests that mindfulness training reduces stress and anxiety among nurses and midwives by initiating a positive cascade whereby increased control over thoughts and emotions creates a calm mental space. This, in turn, facilitates agency (the ability to plan, focus and reflect) and perspective (the ability to step back, value and appreciate one's self and one's surroundings) (Hunter, 2016).

This project has demonstrated that investing in mindfulness and staff wellbeing has been beneficial on an individual, organisational and cultural level among a group of midwives in the UK. The Mindfulness in Maternity project at

Table 2. Perceived benefits of mindfulness course

Do you feel participating in the mindfulness course has been of benefit to...	Yes n (%)	No n (%)	Total n
Your home life	20 (86.96)	3 (13.04)	23
Your work life	21 (91.30)	2 (8.70)	23
The culture of your workplace	13 (59.09)	9 (40.91)	22

Response rate 53% (n=43)

Table 3. Ongoing use of mindfulness skills

Are you still using the mindfulness skills you were taught?	Not at all n (%)	Occasionally n (%)	Weekly n (%)	Daily n (%)	Total n
At home	2 (8.70)	8 (34.78)	9 (39.13)	4 (17.39)	23
At work	2 (8.70)	12 (52.17)	5 (21.74)	4 (17.39)	23

Response rate 53% (n=43)

OUHFT continues to provide training in mindfulness for midwives and MBCP classes for expectant women and their families. Future qualitative research is planned to explore the impact that midwives perceive mindfulness has on their practice in more detail, and to further evaluate the benefits of the mindfulness-based antenatal classes.

BJM

- Baer RA (2003) Mindfulness Training as a Clinical Intervention: A Conceptual and Empirical Review. *Clinical Psychology: Science and Practice* 10(2): 125-43. doi: 10.1093/clipsy.bpg015
- Black DS (2011) Mindfulness Research Guide: a new paradigm for managing empirical health information. *Mindfulness (NY)* 1(3): 174-6. doi: 10.1007/s12671-010-0019-0
- Bond AR, Mason HF, Lemaster CM, Shaw SE, Mullin CS, Holick EA, Saper RB (2013) Embodied health: the effects of a mind-body course for medical students. *Med Educ Online* 18: 1-8. doi: 10.3402/meo.v18i0.20699
- Chambers R, Chuen Yee Lo B, Allen NB (2008) The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cognitive Therapy and Research* 32(3): 303-22
- Chen Y, Yang X, Wang L, Zhang X (2013) A randomized controlled trial of the effects of brief mindfulness meditation on anxiety symptoms and systolic blood pressure in Chinese nursing students. *Nurse Educ Today* 33(10): 1166-72. doi: 10.1016/j.nedt.2012.11.014
- Chiesa A, Serretti A (2009) Mindfulness-based stress reduction for stress management in healthy people: a review and meta-analysis. *J Altern Complement Med* 15(5): 593-600. doi: 10.1089/acm.2008.0495
- Collard P, Anvy N, Boniwell I (2008) Teaching Mindfulness Based Cognitive Therapy (MBCT) to students: The effects of MBCT on the levels of mindfulness and subjective well-being. *Counselling Psychology Quarterly* 21(4): 323-36. doi: 10.1080/09515070802602112

Key points

- Stress within the midwifery profession has a negative impact on the health and wellbeing of individual midwives, as well as negatively affecting the care of women
- The neurological benefits of mindfulness meditation have been linked to an increase in emotional intelligence, specifically empathy and self-regulation
- Maternity staff at Oxford University Hospitals NHS Foundation Trust were offered an 8-week course on mindfulness, after which they were invited to complete an immediate post-course questionnaire and a follow-up questionnaire at 4–6 months
- Participants reported a sustained positive impact on stress (83%), anxiety (68%), resilience (70%), self-compassion (74%) and mindfulness (91%) 4–6 months after completing the course
- Investing in mindfulness training for maternity staff has been beneficial on an individual and organisational level

- Davidson RJ, Lutz A (2008) Buddha's Brain: Neuroplasticity and Meditation. *IEEE Signal Process Mag* 25(1): 174–6
- Di Benedetto M, Swadling M (2014) Burnout in Australian psychologists: correlations with work-setting, mindfulness and self-care behaviours. *Psychol Health Med* 19(6): 705–15. doi: 10.1080/13548506.2013.861602
- Dimidjian S, Goodman S (2009) Nonpharmacologic intervention and prevention strategies for depression during pregnancy and the postpartum. *Clin Obstet Gynecol* 52(3): 498–515. doi: 10.1097/GRF.0b013e3181b52da6
- Deery R (2005) An action-research study exploring midwives' support needs and the affect of group clinical supervision. *Midwifery* 21(2): 161–76
- Deery R, Hunter B (2010) Emotion work and relationships in midwifery: enhancing or challenging? In: Kirkham MJ, ed. *The midwife-mother relationship*. 2nd edn. Palgrave Macmillan, Basingstoke: 37–65
- Duncan LG, Bardacke N (2010) Mindfulness-based childbirth and parenting education: promoting family mindfulness during the perinatal period. *J Child Fam Stud* 19(2): 190–202
- Dunn C, Hanieh E, Roberts R, Powrie R (2012) Mindful pregnancy and childbirth: effects of a mindfulness-based intervention on women's psychological distress and well-being in the perinatal period. *Arch Womens Ment Health* 15(2): 139–43. doi: 10.1007/s00737-012-0264-4
- Dykes F (2006) *Breastfeeding in Hospital: Mothers, Midwives and the Production Line*. Routledge, London
- Erogul M, Singer G, McIntyre T, Stefanov DG (2014) Abridged mindfulness intervention to support wellness in first-year medical students. *Teach Learn Med* 26(4): 350–6. doi: 10.1080/10401334.2014.945025
- Foureur M, Besley K, Burton G, Yu N, Crisp J (2013) Enhancing the resilience of nurses and midwives: pilot of a mindfulness-based program for increased health, sense of coherence and decreased depression, anxiety and stress. *Contemp Nurse* 45(1): 114–25. doi: 10.5172/conu.2013.45.1.114
- Gauthier T, Meyer RM, Greife D, Gold JI (2014) An on-the-job mindfulness-based intervention for pediatric ICU nurses: a pilot. *J Pediatr Nurs* 30(2): 402–9. doi: 10.1016/j.pedn.2014.10.005
- Godfrin KA, van Heeringen C (2010) The effects of mindfulness-based cognitive therapy on recurrence of depressive episodes, mental health and quality of life: A randomized controlled study. *Behav Res Ther* 48(8): 738–46. doi: 10.1016/j.brat.2010.04.006
- Green SM, Bieling PJ (2012) Expanding the Scope of Mindfulness-Based Cognitive Therapy: Evidence for Effectiveness in a Heterogeneous Psychiatric Sample. *Cognitive and Behavioral Practice* 19(1): 174–80. doi: 10.1016/j.cbpra.2011.02.006
- Grossman P, Niemann L, Schmidt S, Walach H (2004) Mindfulness-based stress reduction and health benefits. A meta-analysis. *J Psychosom Res* 57(1): 35–43
- 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. *Clin Psychol Rev* 37: 1–12. doi: 10.1016/j.cpr.2015.01.006
- Harwani N, Motz K, Graves K, Amri H, Harazduk N, Haramati A (2014) Impact of changes in mindfulness on perceived stress and empathic concern in medical students. *Journal of Alternative and Complementary Medicine* 20(5): A7. doi: 10.1089/acm.2014.5016.abstract
- Haslam S, van Dick R (2011) A social identity approach to workplace stress. In: De Cremer D, van Dick R, Murnighan JK, eds. *Social Psychology and Organisations*. Routledge, Hove: 325–52
- Hayes SC, Strosahl KD, Wilson KD (1999) *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change*. Guilford Press, New York
- Hofmann SG, Sawyer AT, Witt AA, Oh D (2010) The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *J Consult Clin Psychol* 78(2): 169–83. doi: 10.1037/a0018555
- Hunter B (2004) Conflicting ideologies as a source of emotion work in midwifery. *Midwifery* 20(3): 261–72
- Hunter L (2014) Supporting teenage mothers to initiate breast feeding and developing a support intervention to increase breast feeding rates in a vulnerable group - the importance of place. Doctoral thesis, University of West London
- Hunter L (2016) Making time and space: the impact of mindfulness training on nursing and midwifery practice. A critical interpretative synthesis. *J Clin Nurs* doi: 10.1111/jocn.13164
- Hunter B, Berg M, Lundgren I, Olafsdóttir OA, Kirkham M (2008) Relationships: The hidden threads in the tapestry of maternity care. *Midwifery* 24(2): 132–7. doi: 10.1016/j.midw.2008.02.003
- Hunter L, Magill-Cuerden J, McCourt C (2015) 'Oh no, no, no, we haven't got time to be doing that': Challenges encountered introducing a breast-feeding support intervention on a postnatal ward. *Midwifery* 31(8): 798–804. doi: 10.1016/j.midw.2015.03.006
- Hunter B, Warren L (2013) Investigating resilience in midwifery. Cardiff University, Cardiff
- Hunter B, Warren L (2014) Midwives' experiences of workplace resilience. *Midwifery* 30(8): 926–34. doi: 10.1016/j.midw.2014.03.010
- Jha AP, Krompinger J, Baime MJ (2007) Mindfulness

- training modifies subsystems of attention. *Cogn Affect Behav Neurosci* 7(2): 109–19
- Kabat-Zinn J (2003) Mindfulness-based interventions in context: Past, present, and future. *Clinical Psychology: Science and Practice* 10(2): 144–56. doi: 10.1093/clipsy/bpg016
- Kabat-Zinn J (2005) *Coming To Our Senses: Healing Ourselves and the World Through Mindfulness*. Piatkus, London
- Kessler I, Griffin R (2013) *A study on the pay and conditions of employment amongst members of the Royal College of Midwives*. RCM, London
- Kirkham M (1989) Midwives and information-giving during labour. In Robinson S, Thomson A, eds. *Midwives, research and childbirth*. Volume 1. Chapman and Hall, London: 117–38
- Kirkham M (2007) Traumatized Midwives. *AIMS Journal* 19(1). www.aims.org.uk/Journal/Vol19No1/traumatizedMidwives.htm (accessed 11 February 2016)
- Kuyken W, Byford S, Taylor RS, Watkins E, Holden E, White K, Barrett B, Byng R, Evans A, Mullan E, Teasdale JD (2008) Mindfulness-based cognitive therapy to prevent relapse in recurrent depression. *J Consult Clin Psychol* 76(6): 966–78. doi: 10.1037/a0013786
- Lan HK, Subramanian P, Rahmat N, Kar PC (2013) The effects of mindfulness training program on reducing stress and promoting well-being among nurses in critical care units. *Australian Journal of Advanced Nursing* 31(3): 22–31
- Lazarus R, Folkman S (1987) Transactional theory and research on emotions in coping. *European Journal of Personality* 1(3): 141–69. doi: 10.1002/per.2410010304
- Lindberg I, Christensson K, Ohrling K (2005) Midwives' experience of organisational and professional change. *Midwifery* 21(4): 355–64
- Liu X, Xu W, Wang Y, Williams JM, Geng Y, Zhang Q, Liu X (2013) Can Inner Peace be Improved by Mindfulness Training: A Randomized Controlled Trial. *Stress Health* 31(3): 245–54. doi: 10.1002/smi.2551
- Mackenzie CS, Poulin PA, Seidman-Carlson R (2006) A brief mindfulness-based stress reduction intervention for nurses and nurse aides. *Appl Nurs Res* 19(2): 105–9
- Manotas M, Segura C, Eraso M, Oggins J, McGovern K (2014) Association of brief mindfulness training with reductions in perceived stress and distress in Colombian health care professionals. *International Journal of Stress Management* 21(2): 207–25. doi: 10.1037/a0035150
- McGrath A, Reid N, Boore J (1989) Occupational stress in nursing. *Int J Nurs Stud* 26(4): 343–58
- McKellar L, Pincombe J, Henderson A (2009) Encountering the culture of midwifery practice on the postnatal ward during action research: An impediment to change. *Women Birth* 22(4): 112–8. doi: 10.1016/j.wombi.2009.02.003
- McLachlan HL, Forster DA, Yelland J, Rayner J, Lumley J (2008) Is the organisation and structure of hospital postnatal care a barrier to quality care? Findings from a state-wide review in Victoria, Australia. *Midwifery* 24(3): 358–70
- Moody K, Kramer D, Santizo RO, Magro L, Wyshogrod D, Ambrosio J, Castillo C, Lieberman R, Stein J (2013) Helping the helpers: mindfulness training for burnout in pediatric oncology—a pilot program. *J Pediatr Oncol Nurs* 30(5): 275–84. doi: 10.1177/1043454213504497
- National Institute for Health and Care Excellence (2009) Depression in adults: recognition and management. www.nice.org.uk/guidance/cg90 (accessed 11 February 2016)
- Oxford Mindfulness Centre (2016) About Mindfulness. www.oxfordmindfulness.org/about-mindfulness (accessed 11 February 2016)
- Palmer E (2010) Compassionate caring: an evaluated pilot of mindfulness-based cognitive therapy training for hospice at home nurses (conference abstract). *Journal of Palliative Care* 26(3): 111–2
- Penque S (2009) Mindfulness based stress reduction effects on registered nurses. Doctoral thesis. University of Minnesota, Minnesota
- Salmon P, Sephton S, Weissbecker I, Hoover K, Ulmer C, Studts JL (2004) Mindfulness meditation in clinical practice. *Cognitive and Behavioural Practice* 11(4): 434–46. doi: 10.1016/S1077-7229(04)80060-9
- Savery L, Luks J (2001) The relationship between empowerment, job satisfaction and reported stress levels: some Australian evidence. *Leadership and Organisational Development Journal* 22(3): 97–104. doi: 10.1108/01437730110389247
- Shapiro SL, Astin J, 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): 164–76. doi: 10.1037/1072-5245.12.2.164
- Song Y, Lindquist R (2015) Effects of mindfulness-based stress reduction on depression, anxiety, stress and mindfulness in Korean nursing students. *Nurse Educ Today* 35(1): 86–90. doi: 10.1016/j.nedt.2014.06.010
- Surawy C, McManus F, Muse K, Williams JM (2014) Mindfulness-Based Cognitive Therapy (MBCT) for Health Anxiety (Hypochondriasis): Rationale, Implementation and Case Illustration. *Mindfulness (NY)* 6(2): 382–92
- Tang YY, Posner MI, Rothbart MK (2014) Meditation improves self-regulation over the life span. *Ann NY Acad Sci* 1307: 104–11. doi: 10.1111/nyas.12227
- Taren AA, Creswell JD, Gianaros PJ (2013) Dispositional mindfulness co-varies with smaller amygdala and caudate volumes in community adults. *PLoS One* 8(5): e64574. doi: 10.1371/journal.pone.0064574
- Teasdale JD, Segal ZV, Williams JM, Ridgeway VA, Soulsby JM, Lau MA (2000) Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *J Consult Clin Psychol* 68(4): 615–23
- Warnecke E, Quinn S, Ogden K, Towle N, Nelson MR (2011) A randomised controlled trial of the effects of mindfulness practice on medical student stress levels. *Med Educ* 45(4): 381–8. doi: 10.1111/j.1365-2923.2010.03877.x
- Warriner S, Williams M, Bardacke N, Dymond M (2012) A mindfulness approach to antenatal preparation. *British Journal of Midwifery* 20(3): 194–8. doi: 10.12968/bjom.2012.20.3.194
- Williams M, Teasdale J, Segal Z, Kabat-Zinn J (2007) *The Mindful Way through Depression: Freeing yourself from chronic unhappiness*. Guilford Press, New York
- Williams M, Penman D (2011) *Mindfulness: A practical guide to finding peace in a frantic world*. Piatkus, London
- Zeidan F, Johnson SK, Diamond BJ, David Z, Goolkasian P (2010) Mindfulness meditation improves cognition: evidence of brief mental training. *Conscious Cogn* 19(2): 597–605. doi: 10.1016/j.concog.2010.03.014