ORIGINAL ARTICLE

Investing in compassion: exploring mindfulness as a strategy to enhance interpersonal relationships in healthcare practice

Sandra Moll *[1], Andrea Frolic[2,3], Brenda Key[4,5]

[1] School of Rehabilitation Science, McMaster University, Canada
[2] Office of Clinical & Organizational Ethics, Hamilton Health Sciences, Canada
[3] Faculty of Health Sciences, McMaster University Medical Center, Canada
[4] Mood Disorders Program & Anxiety Treatment and Research Centre, St. Joseph's Healthcare Hamilton, Canada
[5] Department of Psychiatry and Behavioural Neurosciences, McMaster University, Canada

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ABSTRACT

Healthcare is a human enterprise where provider-patient interactions are a critical part of the therapeutic process. Unfortunately many healthcare providers are at risk of burnout or compassion fatigue that can detract from quality care. Mindfulness-based interventions have proven efficacy for reducing stress among healthcare workers, but there is limited evidence regarding its impact on interpersonal communication. The purpose of this mixed-methods, non-randomized intervention study was to track the inter-personal impact of a nine-week mindfulness-based stress reduction (MBSR) program on healthcare employees in two large hospitals. Pre and post group surveys were completed by 125 participants, tracking changes in empathy and symptoms of burnout, as well as gathering feedback about the program. Focus groups were also conducted with a sample of 12 participants one year later to explore their impressions of the sustained impact of the program. Analysis of the survey data indicated a significant increase in both cognitive and emotional dimensions of empathy, as well as significant decrease in the indicators of burnout. Many participants described an increased ability to listen mindfully to others, and that they were more tolerant and compassionate, with less emotional reactivity and better skills in managing conflict. Focus group participants indicated that they were able to integrate and apply principles of mindfulness into their day-to-day communications both within and outside of work. The findings provide a compelling argument for the value of mindfulness in not only building resilience, but enhancing communication in the context of healthcare work.

Key Words: Mindfulness, Workplace, Mental health, Healthcare workers

1. INTRODUCTION

Despite advances in technology and science, healthcare is fundamentally a human enterprise; interactions between service providers and care recipients are at the core of the healthcare experience. There is growing evidence of the clear links between the healthcare provider-patient relationship and quality of patient care. If healthcare providers listen empathically to patient concerns, clearly share information, and actively engage them in the healthcare process, there can be improved resolution of emotional and physical symptoms, improved

*Correspondence: Sandra Moll; Email: molls@mcmaster.ca; Address: School of Rehabilitation Science, McMaster University, Canada.

satisfaction and fewer repeated consultations.[1–3] In addition to provider-patient communication, interactions between members of the healthcare team are integral to quality patient care. There is evidence that effective inter-professional collaboration improves access to healthcare, leads to more effective use of clinical resources, and improves patient safety and health outcomes.[4] This growing body of evidence clearly demonstrates that high quality healthcare is dependent upon empathic, effective communication. Communication skills are just as essential as clinical knowledge.[1]

Unfortunately, poor communication is often at the heart of many complaints about healthcare service delivery. Renewed calls for "patient-centred care" and "humanistic medicine" speak to growing concerns about the relationship between patients and healthcare providers, and the need to raise the profile of "old-fashioned" values of caring and compassion.[5,6] The path forward, however, may be difficult. Health professionals are struggling in record numbers with burnout, compassion fatigue, and other forms of mental distress.[7] Workplace incivility, demands to do more with less, and the day-to-day stressors of working with emotionally or physically demanding patients can take a negative toll on the mental health of healthcare providers.[8] Occupational burnout is one consequence experienced by many healthcare providers.[9,10] Burnout is a syndrome characterized by emotional exhaustion, depersonalization, and a sense of inadequacy.[11,12] When experiencing symptoms of burnout, an employee's ability to communicate is impaired.[13] Healthcare workers are also at risk for compassion fatigue. Compassion fatigue occurs when a healthcare provider unconsciously internalizes the adversity and trauma of his/her patient(s).[14,15] Over time this can lead to emotional exhaustion and erosion of care and empathy.[16,17] It can be difficult for workers to replenish the emotional resources needed to establish positive relationships with others and to demonstrate empathy and compassion.

Healthcare providers today may find themselves in a double-bind. On the one hand, they are being asked to enhance the affective dimensions of care by expressing more care and compassion, and by listening with more attunement to the needs and stories of their patients. On the other hand, many health care providers find themselves emotionally depleted, struggling to keep up with the stressful, often competing demands of their job and engage in basic self-care to maintain their own mental and physical well-being. It can be challenging for healthcare providers to authentically express compassion and empathy, yet maintain enough emotional reserve to avoid burnout.[18]

Given the many challenges and barriers to compassionate, patient-centred care, there is a need for evidence-based strategies to overcome these barriers. Mindfulness-based interventions are one promising approach for building wellness and resilience among healthcare workers. Mindfulness involves "paying attention in a particular way: on purpose, in the present moment and non judgmentally" (p.4).[19] One of the core teachings of mindfulness is the cultivation of awareness of thought patterns; noticing when one's thoughts have wandered to the past or future, or into judgments or fantasies, and, once aware, refocusing on the present moment experience.[20,21] This increased self-awareness can allow individuals the opportunity to decide how to respond to stressful situations rather than automatically responding in a potentially unhelpful manner. Awareness and attention skills are complemented by the cultivation of an attitude of non-judgment towards oneself.[20] Participants are encouraged to acknowledge and accept whatever is happening in the present moment – pain, pleasure, irritation, boredom, numbness – rather than resisting the experience.[19] This attitude of non-judgment purportedly cultivates compassion for others by creating greater acceptance of feelings, thoughts and bodily sensations.

Mindfulness-based stress reduction (MBSR), developed by Jon Kabat-Zin in 1979, is one of the most frequently reported and researched approaches to mindfulness intervention. MBSR is an 8-week structured program of 2.5 hours/week of class time, plus an 8-hour silent retreat, involving a variety of mindfulness practices (body scan, seated meditation, walking meditation, eating meditation, gentle yoga), as well as group reflection on the practices and discussion of a variety of topics related to developing self-awareness and self-acceptance.[19,22] In addition to class sessions, participants are expected to practice mindfulness at home for 15-45 minutes per day, often supported by meditation audio recordings.

There is a growing body of evidence supporting the effectiveness of mindfulness interventions such as MBSR with non-clinical as well as clinical populations in a range of contexts, including the workplace.[23,24] In the past decade, there has been particular attention to the value of mindfulness interventions with healthcare workers.[25,26] Several review studies have explored the impact of mindfulness interventions on the health and well-being of healthcare providers. These studies have reported strong evidence for the value of mindfulness in reducing psychological distress and burnout, as well as increasing positive affect, self-compassion and overall psychological well-being.[27–30] A recent meta-analysis of 19 mindfulness intervention studies with working adults found medium to large effect sizes related to improvements in psychological well-being; comparing both pre and post-group

measures, as well as comparing mindfulness participants to those in the inactive control group.[31]

Although there is a growing number of high quality studies supporting the beneficial impact of mindfulness on stress and resilience, there is much less research on the social or inter-personal impact of mindfulness. Condon *et al.*[32] noted a paucity of research regarding the interpersonal impact of meditation even though compassionate responding is supposed to be one of the primary outcomes of meditation practices. There have been several small studies exploring the impact of mindfulness training with counseling/psychotherapy students, with reports of improvements in the therapeutic alliance following mindfulness training.[33–35] A review study by Escuriex and Labbe,[27] however, noted that the findings of these studies are not consistent, that there are weaknesses in methodology, and that therapists' personal levels of mindfulness were not necessarily related to improved treatment outcomes. They recommended future research to systematically explore this relationship in more depth. Morgan, Simpson & Smith[29] conducted a review of 14 qualitative studies exploring healthcare workers' experiences of mindfulness training. They noted many themes related to intra-personal change (*e.g.* self compassion, appreciating the pleasant), but also noted some that were more inter-personal in nature (*e.g.* presence, listening, shared humanity). They observed that the participants who viewed mindfulness as primarily a set of tools to deal with stress, were less likely to experience a wider range of benefits across different social contexts. More research is needed to explore the impact of mindfulness-based interventions on interactions with colleagues, patients and families in the context of healthcare work. The overall purpose of this paper is to highlight the inter-personal impact of a workplace-based MBSR program involving healthcare employees.

2. METHOD

A mixed methods, multi-site evaluation study was conducted to explore the impact of mindfulness-based interventions on healthcare employees in a mid-sized urban center in southern Ontario. This paper focuses on data related to changes in inter-personal interactions and relationships with others, both within and outside the workplace. A non-randomized, pre and post group design was adopted, including standardized self-report measures of empathy and burnout, as well as open-ended questions regarding the perceived impact of the program. In addition, follow-up focus groups were conducted one year later with a subgroup of 12 participants. Ethics approval was secured through the local research ethics board, and written consent was obtained from all participants at the outset of the program.

2.1 Participants and recruitment

Participants were recruited from two different academic healthcare organizations in the same urban centre; a large, multi-site hospital employing over 11,000 full and part-time employees, and a mid-sized multi-site hospital with approximately 4,500 employees. Recruitment strategies included "lunch and learn" sessions with staff, as well as information distributed through email channels, staff newsletters, managers and posters throughout the organization. There was some targeted recruitment of employees in high-stress areas of the organization, and one course specifically targeted staff in clinical leadership positions. Inclusion criteria for participation included: full or part-time employment in one of the partner organizations, an ability to communicate in English and willingness to participate in the program.

Focus groups were conducted with study participants one year after completion of the MBSR program. All MBSR participants were sent an email invitation to participate in one of two focus group discussions. Participants were included if they were willing and able to participate at the scheduled dates and times.

2.2 Mindfulness-based stress reduction intervention

Using the model described by Kabat-Zinn,[36] the MBSR program included nine weekly 2.5-hour group sessions, plus a full day silent retreat after session six. The intervention followed the traditional eight-week course format[36] with one additional session added that focused on dealing with conflict mindfully and enhancing communication in the workplace. Program facilitators were health professionals with previous MBSR teaching experience, as well as a personal meditation practice of greater than five years. Each session included a combination of didactic teaching, group discussion and meditation practice. Participants were encouraged to practice the meditation techniques at home daily, and were given a recording of guided mindfulness exercises, a booklet summarizing key points taught in the session, and a copy of the book "Full Catastrophe Living" by Jon Kabat-Zinn.[36] A total of seven MBSR courses were conducted from January-June 2013, with 20-25 participants in each course.

2.3 Data collection

All participants were asked to complete questionnaires immediately prior to the first session as well as immediately after the final session. The questionnaires included standardized quantitative assessment tools (Interpersonal Reactivity Index [IRI] and the Maslach Burnout Inventory [MBI]), as well as several open-ended questions. In addition, two focus groups were conducted approximately one year after participants completed the program.

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The IRI is a 28 item self-report scale that tracks four different dimensions of empathy: perspective-taking (adopting the psychological view of others); empathic concern ("other oriented" feelings of sympathy, compassion and concern for unfortunate others), and personal distress ("self oriented" feelings of anxiety and unease as a result of someone else's negative experience), and fantasy (transposing oneself imaginatively into the feelings & actions of fictitious characters).[37] There are seven items in each of the four subscales, rated on a 1 to 5 point scale, with higher summary scores indicating higher empathy (except for personal distress where lower scores indicate higher empathy). The scale measures trait-based empathy, and the subscales are designed to be considered separately rather than as an overall measure of empathy.[37] Validation studies have been conducted with college students and healthcare providers.[38] It correlates with other measures of empathy, including the Jefferson Scale of Physician Empathy, and the perspective taking subscale is associated with increased well-being in both college students and physicians.[39]

The MBI (Human Services Survey, third edition) is a 22-item, self-report inventory that measures how participants view their jobs and their co-workers.[40] The MBI measures 3 aspects of the burnout syndrome: emotional exhaustion, depersonalization or cynicism, and personal accomplishment. Each aspect is measured by a separate subscale and questions are rated on a 0-6 Likert scale. The emotional exhaustion subscale measures feelings of being emotionally overextended and exhausted by one's work (score range of 0-54); depersonalization measures an unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction (score range of 0-30); and personal accomplishment tracks feelings of competence and successful achievement in one's work. Higher scores on the emotional exhaustion and depersonalization subscales and a lower score on the personal accomplishment scale suggests greater burnout. The MBI has been previously validated in samples of health care professionals and has been shown to have strong content, internal structure and criterion validity.[41,42]

In addition to the standardized tools, qualitative data regarding perceived impact of the program was gathered using open-ended questions at the end of the pre- and post-group questionnaires. The pre-intervention questionnaires asked participants about what they hoped to gain from the program, and questions in the post-group questionnaires asked about what they gained from participating, as well as about the impact on their lives both inside and outside of work.

In order to track enduring impact of the program, follow-up focus groups were conducted with volunteers who agreed to provide input on their experiences one year after participation in the MBSR program. Each focus group was approximately 90 minutes in length. In the sessions, participants were asked about their impressions and experiences of the course, experiences in applying mindfulness, enduring impact of the course on themselves and others, and perceptions of future possibilities for themselves and for the organization. The group discussions were audiotaped and transcribed verbatim.

2.4 Data analysis

All quantitative data analyses were performed using SPSS for Windows version 22.[43] The criterion for statistical significance was alpha = 0.05 (two-tailed) for all of the statistical analyses. Summative scores were calculated for each of the subscales of the IRI and the MBI. Reported changes from pre to post intervention on the empathy and burnout subscales were tested using a series of repeated measures analyses of variance (RM-ANOVAs) with the within-participant factor of time (pre *vs.* post intervention). We were interested in the unique impact of the intervention on each of the subscales and therefore did not use MANOVA analyses (which would combine the subscales into a single analysis). The Bonferroni correction was applied to adjust for the increased risk of Type I error due to the multiple analyses performed within the areas of empathy and burnout. Therefore the alpha level for statistical significance for the analyses of the four empathy subscales was set at 0.0125, while the alpha level for the analyses of the three burnout subscales was set at was 0.0167. Only participants who completed both the pre and post assessment were included in the final analyses.

Analysis of the qualitative comments was informed by a conventional content analysis approach.[44] Analysis was an iterative process, initially linking similar responses together into inductive categories such as "mindful listening", and "emotional regulation". A codebook was developed to identify and define key codes, considering both the process and outcome of participation. Each of the survey comments were double coded by members of the research team to further refine the coding categories and ensure consistency in the coding process. Areas of disagreement were identified then resolved through discussion and refinement of the codebook as needed. Focus group transcripts were analyzed in a similar inductive coding process with at least two members of the research team. NVivo software[45] was used to facilitate data management and analysis.

3. RESULTS

3.1 Participant characteristics

A total of 164 employees participated in the MBSR program. There were 125 participants who completed both

the pre and post standardized questionnaires (76% response rate). In addition, there were 133 participants who provided responses to the open-ended questions at the end of the questionnaires (81% response rate). The majority of program participants were female (93%), married (59%), Caucasian (87%), and working as nurses (54%) or allied health professionals (29.4%). Participants were primarily novice meditators, with 77% reporting that they meditated either infrequently or never before the course.

In addition, 12 participants participated in the follow-up focus groups (7% response rate). Focus group participants included 5 managers and 6 clinicians (work role for one participant was not reported), and 92% of the participants were female.

3.2 Interpersonal reactivity index

A series of RM-ANOVAs were used to test the prediction that MBSR participants would report an increase in the four factors associated with empathy from pre to post intervention. Consistent with this prediction, analysis revealed that MBSR participants reported significant increases in empathic concern, perspective taking and absence of personal distress ($p < .0125$, see Table 1). Cohen's *d* effect size analysis indicated that the MBSR intervention had a small effect on empathetic concern and a small to medium effect on perspective taking and personal distress (see Table 2). There was not, however, a statistically significant change in the dimension of fantasy (transposing oneself imaginatively into the feelings & actions of fictitious characters in movies, books *etc.*) ($p > .0125$, see Table 1).

Table 1. Changes in empathy and burnout

Scale	Pre-Intervention Mean (*SD*)	Post-Intervention Mean (*SD*)	RM-ANOVA Results	Significance
IRI Fantasy	14.94 (5.29)	14.80 (5.87)	$F(1,124) = 1.30$	$p = .257$
IRI Empathetic Concern	21.84 (3.88)	22.19 (3.93)	$F(1,124) = 7.21$	$p = .008^*$
IRI Personal Distress	9.88 (5.01)	8.44 (4.37)	$F(1,124) = 36.98$	$p < .001^*$
IRI Perspective Taking	18.74 (4.40)	20.27 (3.91)	$F(1,124) = 29.93$	$p < .001^*$
MBI Personal Accomplishment	20.97 (4.76)	21.61 (3.78)	$F(1,116) = 9.22$	$p = .003^*$
MBI Emotional Exhaustion	18.57 (5.55)	15.58 (5.27)	$F(1,116) = 42.41$	$p < .001^*$
MBI Depersonalization	15.38 (5.07)	13.14 (5.39)	$F(1,116) = 13.74$	$p < .001^*$

Note. IRI = Interpersonal Reactivity Index; MBI = Maslach Burnout Inventory; * = statistically significant, based on the Bonferroni correction for multiple comparisons; alpha was set at < 0.0125 for IRI analyses and < 0.0167 for MBI analyses

Table 2. Effect Size for changes in empathy and burnout

Scale	Effect size	Interpretation
IRI Fantasy	-0.03	No Significant Effect
IRI Empathetic Concern	0.09	Small Effect
IRI Personal Distress	0.30	Small- Medium effect
IRI Perspective Taking	0.37	Small- Medium effect
MBI Personal Accomplishment	0.15	Small Effect
MBI Emotional Exhaustion	0.55	Medium Effect
MBI Depersonalization	0.43	Medium Effect

Note. Effect size is Cohen's *d*; positive effect size indicates improvement in this area; IRI = Interpersonal Reactivity Index; MBI = Maslach Burnout Inventory

3.3 Maslach burnout inventory

A similar series of RM-ANOVAs were used to evaluate the hypothesis that MBSR participants would experience significant changes across all three dimensions of burnout. In support of this prediction, MBI results indicated that participants reported significant increases in professional accomplishment, and significant decrease in emotional exhaustion and depersonalization ($p < .0167$, see Table 1). Cohen's *d* effect size analysis indicated that the MBSR intervention had a small effect on personal accomplishment and a medium size effect on emotional exhaustion and depersonalization (see Table 2).

3.4 Qualitative comments about social impact

An inductive content analysis of the questionnaire data led to identification of social impact as one of the key categories, with several sub-codes. It should be noted that on the pre-session questionnaires, only 8% of the respondents indicated that they hoped to make gains in their interactions with others (most focused their goal of decreasing personal stress). In contrast, when asked about what they gained after the program was complete, over half of participants (53%) made reference to some kind of social impact. When asked specifically about impact on work life, over 62% of participants referred to significant improvement in interactions with colleagues, families and/or patients. The social impact was attributed to (in order of frequency): 1) improvements in mindful listening; 2) increased tolerance/compassion for others; 3) decreased emotional reactivity; and 4) enhanced conflict management skills. See Table 3 for sample quotes to illustrate each area of impact.

Table 3. Qualitative questionnaire comments related to social impact

Category	Sample Quotes
Mindful Listening	• Improvement in tuning in to be more present when listening to or attending to others. • I am better able to "be in the moment" with my patients and not go on "autopilot" when treating them. • …allowed me to mindfully listen to patient problems before jumping in with my own agenda.
Tolerance/compassion for others	• I now have more patience and less judgment …creating moments of humanity. • I am more willing to look at where the other person is coming from. • It has helped me to be more compassionate with my patients and my work colleagues.
Decreased emotional reactivity	• An ability to pause before reacting, increasing ability to check in with myself to notice reaction. • I feel a greater sense of control over myself and less need to control others or be affected by the reactions of others to certain situations. • …ability to achieve states of "calmness", "healthy detachment" even while facing crisis.
Enhanced conflict management skills	• I can disengage from work drama. I am not drawn into the drama as much. • I am not as reluctant to approach difficult conversations. • Learned about how to communicate better and how to handle difficult situations more mindfully.

Mindful listening was one of the most frequently mentioned inter-personal changes. Participants talked about slowing down, bringing their full attention to what others were saying, and being present to hear the perspective of others. This process also involved "mindfully" listening, by setting aside their own agenda, being emotionally attuned to others and allowing them to speak without interruption. Another common change reported by many participants was a sense of enhanced compassion towards others. Participants talked about being more tolerant and respectful of colleagues and patients, as well as being more aware of and receptive to their ideas and perspective. The third area of impact reported by many participants was decreased emotional reactivity in difficult situations. This involved being less defensive and being able to step back and think before reacting. They described having a more calm, relaxed attitude and a greater sense of control over their emotional response. The fourth area of social impact relates to an overall increase in participants' perceived ability to handle conflict and difficult situations. They talked about disengaging from negativity, increased confidence in approaching difficult conversations, improved communication skills and enhanced relationships with difficult people. It should be noted that the impact was linked not only to interactions with patients, but also with families and other employees in the organization.

3.5 Focus group responses re: social impact

In the focus groups that were conducted one year following the intervention, similar themes were evident when participants talked about the impact of the program on their relationships with others. Comments reflected how participants had integrated the principles of mindfulness into their day-to-day communication. For example, one participant talked about the "profound" change in how she listens to patients; listening without judgment, and stepping back to give them an opportunity to sort it out on their own. As a result, she indicated that patients feel that you are really listening which serves to build respect in the therapeutic relationship. Others talked about the lasting value of being able to step back from a situation; being calm, and not over-reacting. For example, one participant explained: *"…what sort of stayed with me is the helpful aspects of being able to recognize what was bugging me and not letting them bug me. And even though those things are there and some things just don't change, I just don't get bugged about it… Just using some of the techniques so I stay in a situation where I'm okay."* Another participant also talked about detaching herself from emotionally charged situations: *"Just observing… sort from a distance and recognizing that perhaps it's not as, the moment isn't as all-encompassing as it had been in the past, you know, a bit more objective."* In addition to increased resilience, they also talked about applying strategies to deal with challenging situations. One participant, for example, talked about stepping into a middle manager role with her former peers, reporting that: *"…without having had that [MBSR program], it may have been more challenging for me to enter into some of those semi-disciplinary conversations."* The other impact reported in the focus groups relates to how participants shared their learning with others both within and outside the workplace. They talked about integrating mindfulness into their work with clients; teaching them some of the tools that they have learned. Also, participants shared examples of integrating mindfulness strategies into staff meetings, creating lunch hour meditation groups, and applying mindfulness strategies informally when interacting with difficult colleagues or in supporting colleagues who were struggling. In addition, many participants talked about how application of mindfulness strategies has improved their

relationships with family members. Participants championed application of mindfulness principles both within and outside of the workplace, which served to extend the impact of the program beyond the individual participant.

4. Discussion

Both the quantitative and qualitative findings highlight the significant impact that MBSR can have on interpersonal interactions within the context of healthcare work. Impact ranged from enhancements in cognitive and emotional dimensions of empathy to resilience to face the complex personal and social demands of healthcare work.

Empathy was one of the key outcomes tracked by all three approaches to data collection. Empathy is a multi-dimensional construct that is reported to have a cognitive dimension (able to adopt the perspective of others), as well as an emotional dimension (experiencing sympathy and compassion for others).[37,46] The study findings highlight changes in both dimensions. Changes in the "perspective taking" dimension of the IRI, for example, highlight statistically significant improvements in the cognitive dimension of empathy. Participants' descriptions of mindful listening and learning how to slow down and bring their full attention to what others were saying also highlighted the cognitive changes in their ability to hear the perspective of others. In terms of the emotional dimensions of empathy, significant improvements in the "empathic concern" scores on the IRI and significant declines in the depersonalization dimension of burnout on the MBI provides support for the effectiveness of MBSR in facilitating empathy towards recipients of care. Qualitative comments about increased tolerance, decreased judgment and improved compassion for others were also consistent with the findings of changes in the emotional dimension of empathy. There was one empathy subscale from the IRI that did not change; the fantasy dimension. Fantasy refers to empathy towards fictional characters in movies or books, which in contrast to the other dimensions, has limited applicability to the context of healthcare work. Consequently, the lack of change in this dimension is not surprising and does not detract from the other, contextually relevant dimensions of empathy.

Changes in cognitive and emotional dimensions of empathy are indicators of improved connections with others that are consistent with a patient-centred care approach. Healthcare providers are called to listen and respond compassionately to patients and families, and our study provides support for the effectiveness of MBSR training in enhancing this fundamental aspect of clinical care. This finding is consistent with other qualitative studies of mindfulness with healthcare workers where there were reported changes in relationships with patients and families.[29]

Although these indicators of enhanced empathy are important, healthcare providers may find themselves in a double bind when it comes to their emotional labor in the workplace. On the one hand, they are told that the patient experience is the top priority of the healthcare organization. Staff are enjoined to attend to the emotional needs of patients, to show compassion for the patient's suffering, and to care about the patient as a person. However, many healthcare organizations do not reward compassionate care, but instead value (implicitly or explicitly) high work volume, efficiency and the achievement of specific metrics that are perceived as interfering with the delivery of compassionate care, such as rapid discharge, higher patient-staff ratios, onerous documentation regimes or service cuts. In addition, the emotional demands of patients and incivility of colleagues can add to the pressures of inter-personal interactions. The healthcare provider is expected to respond with constant kindness and attention, regardless of their own exhaustion or ill-health. Balancing compassion for others in light of these external demands and social pressures may be very challenging.

The findings from this study provide some evidence that MBSR can also be helpful in building resilience to face these conflicting interpersonal demands. For example, significant decreases in the personal distress subscale of the IRI indicate that employees felt less anxious and uncomfortable about the distress of others. In addition, significant decreases in the emotional exhaustion subscale of the MBI indicated that participants did not feel as emotionally overextended or exhausted by their work. Comments made by participants about decreased emotional reactivity provide further support to the quantitative findings. Participants talked about being more resilient to face negativity in the workplace and able to disengage from emotionally charged situations. In addition, they talked about a greater sense of emotional control and being able to step back and think before reacting. They were able to be emotionally responsive to patients and families (and colleagues), yet not be overwhelmed by the situation. This speaks to the concept of compassion that entails empathic imagination; being able enter the worldview of another, while retaining the "necessary distance" or a sense of separateness.[18,46] Compassion fatigue can be avoided through this combination of perspective taking and emotional attunement, yet avoiding emotional engulfment.[15]

Finally, findings from the MBI highlighted significant increases in the dimension of personal accomplishment, which tracks overall feelings of competence and successful achievement in one's work. This is consistent with participant reports of feeling more confident in their ability to handle difficult situations in the workplace. An increased sense of self-efficacy and control is one of the key forces in building

resilience in the workplace.[47] It is important to note that the overall effects of enhanced empathy, increased personal and social resilience and increased self-efficacy in difficult interpersonal situations was not only noted in the post-group questionnaires, but were reiterated by focus group participants one year following participation in the MBSR program.

The combination of enhanced compassion for others combined with enhanced resilience to cope with interpersonal demands is a compelling argument for implementing mindfulness based interventions in the context of healthcare work. The typical focus of mindfulness has been on buidling resilience to stress, and this was in fact the motivation for many participants to attend the program. The outcomes of participation, however, were multi-dimensional with many valuable outcomes related to the social and emotional dimension of work. According to the focus group participants, these benefits were reportedly sustained over time and extended to others both within and outside the workplace.

Study limitations

There are a number of study limitations that should be noted. The first is that it was not a randomized controlled trial: since employees chose to participate in the study, it may be that they were more receptive to the intervention than non-participants. Although pre-post survey response rates were fairly high (> 76%), follow-up focus groups only represented 7% of the study participants (due to resource limitations). Since they volunteered to participate, focus group participants may be more likely to report positive and sustained impact of the mindfulness intervention over time. Most of the participants were female staff members in clinical positions within a large healthcare organization. Their responses may therefore be different from workers with different personal characteristics in different organizational contexts.

Despite these study limitations, there are also a number of strengths that should be noted. The mixed methods approach provided corroboration of the study findings from several sources, including standardized assessments as well as qualitative comments from participants. The qualitative data added depth of understanding of the inter-personal changes within the context of day-to-day work. The focus group follow-up, even through the numbers were small, did provide some clues as to how the social impact was sustained over time, with evidence of continued impact one year following the intervention. It is recommended that future studies incorporate random assignment of participants to either the MBSR intervention or a wait-list control group, and include proactive follow-up with all participants to track both quantitative and qualitative impact over time.

5. Conclusion

MBSR contributes to improving relationships between healthcare employees as well as relationships between healthcare providers and their patients. Improved relationships are supported by increased resiliency to face complex interpersonal demands inherent in healthcare work. Mindfulness therefore has the potential to be more than just a wellness initiative; it is also a sustainable strategy for investing in quality of care.

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