

Does Mindfulness Training Enhance the Professional Development of Residents? A Qualitative Study

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Abstract

Purpose

In addition to developing diagnostic and clinical skills, postgraduate medical education should stimulate residents' professional development. Teaching medical professionalism is challenging and is often left largely to the informal and hidden curricula. An intervention that might be beneficial for medical residents is mindfulness-based stress reduction (MBSR). The authors implemented MBSR as an optional course for residents and qualitatively explored how it influenced residents professionally.

Method

Between 2014 and 2016, the authors conducted 19 in-depth, face-to-face

interviews with residents who had participated in an MBSR course at Radboud university medical center, The Netherlands. Medical and surgical residents, across a range of disciplines, participated. The authors used the constant comparison method to analyze the data.

Results

The analysis of the data resulted in five themes: awareness of thoughts, emotions, bodily sensations, and behavior; increased self-reflection; acceptance and nonjudgment; increased resilience; and relating to others. Residents indicated that the MBSR training increased their awareness and self-reflection at work, and they were

more accepting toward themselves and toward their limitations. Furthermore, they mentioned being more resilient and better at setting priorities and limits. They improved their self-care and work-life balance. In addition, residents indicated that the training made them more aware of how they communicated. They asked for help more often and seemed to be more open toward feedback. Lastly, they indicated an increased sense of compassion for others.

Conclusions

This study indicated that mindfulness training can serve as a tool to cultivate important professional competencies for residents.

Residency training is a highly demanding and challenging period during which residents develop new skills and knowledge. In addition to acquiring medical knowledge, they are expected to learn how to provide humane and professional care to patients.^{1,2} In the last decade, there has been increased awareness within medical schools of the professional development of residents, and also awareness of physicians' personal development and well-being.^{2,3} This is also emphasized by educational frameworks such as CanMEDS and professional organizations as the Accreditation Council for Graduate

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Medical Education (ACGME).^{3–5} However, these nonclinical competencies are difficult to integrate into the formal curriculum and are often left largely to the informal and hidden curricula.^{6,7}

An intervention that might contribute to the professional development of health care professionals is mindfulness-based stress reduction (MBSR), as studies on the neuropsychological effects and mechanisms of mindfulness training suggest that mindfulness may improve attention, working memory, self-awareness, and self-regulation.^{8–11}

Furthermore, a recent review of qualitative studies on mindfulness in health care workers reported that the perceived benefits included increased personal well-being, self-compassion, and enhanced presence when relating to others.¹² In addition, systematic reviews show that MBSR can reduce health care professionals' and trainees' levels of stress and burnout, and improve their quality of life.^{13–16}

However, little is known about the perceived benefits of MBSR on the

professional lives of residents. The aim of our qualitative study was to explore the influence of MBSR on residents' professional lives—how they work and develop as physicians, how they manage stress at work, and how they balance their home and work responsibilities.

Method

Study design

We conducted a qualitative in-depth, face-to-face interview study. We selected participants according to a purposive sampling strategy taking into account gender, age, specialty, and levels of burnout symptoms.

Course description

The MBSR training was based on the program developed by Jon Kabat-Zinn¹⁷ and consisted of eight weekly sessions of 2.5 hours and a 6-hour silent day. Group size varied between 8 and 16 participants. Participants practice mindfulness exercises, receive psycho-education about stress, and are instructed to practice daily at home for approximately 45 minutes. They learn to focus their attention on the

present moment and observe their own thoughts, feelings, and bodily sensations in a kind and nonjudgmental way rather than identifying with them (meta-awareness). Participants are encouraged to become aware of their own automatic behavioral patterns and to consider replacing them with more conscious and helpful behavior. Supplemental Digital Appendix 1, available at <http://links.lww.com/ACADMED/A554>, provides a detailed description of the intervention.

The courses were taught by experienced mindfulness trainers, who all met the requirements of the good-practice guidance for teaching mindfulness-based courses of the UK Network of Mindfulness-Based Teacher Trainers.¹⁸ Residents participated in regular MBSR groups that were already offered to health care professionals and the public on a regular basis during the evening. They were able to use educational vouchers or an educational budget for participating in the MBSR and therefore did not have to pay for themselves. After participation, each individual received a certificate of participation.

Participants

The study population consisted of residents from all medical, surgical, and primary care disciplines of the Radboud university medical center, Nijmegen, The Netherlands. The total number of residents varies over time because their training schedule requires them to rotate to other departments and/or hospitals every 6 to 12 months. However, approximately 1,200 residents worked at one of the medical, surgical, or primary care disciplines during the study period (two years). In total, 148 residents participated in the optional MBSR courses between October 2013 and October 2015, of which 36 were contacted for the interviews. All 148 residents had completed an online questionnaire before the start of the MBSR course, so we were able to select participants according to a purposive sampling strategy taking into account gender, age, specialty, and levels of burnout symptoms. Burnout symptoms were assessed with the emotional exhaustion subscale of the Utrecht Burnout Scale.¹⁹ Furthermore, as the aim of the study was to explore the potential influence of MBSR, we only contacted residents who had attended a minimum of four sessions.

Participants were contacted between 3 and 12 months after participating in the MBSR training. We conducted the interviews at least 6 months after the MBSR training, between November 2014 and May 2016. Of the 36 residents whom we contacted by mail, 8 did not respond after the initial mailing and two reminders, 7 indicated that they did not want to participate, and 2 indicated that they were willing to participate but were unable to do so at the present time. The remaining 19 residents were willing and able to participate. Participants were informed about the purpose of the study, and anonymity was emphasized. No incentives were offered for participation.

Participants were between 25 and 57 years in age, the majority were female (74%), and most did not have children (74%). Characteristics of the participants are reported in Table 1. The baseline characteristics of the participants did not

differ from those who did not want to participate.

Data collection

Participating residents consented to a face-to-face interview, which was audio-recorded. The interviews took place at Radboud university medical center or at the participants' homes, based on their preference. The interviews were conducted in Dutch. The illustrative quotes were translated into English by a native English speaker.

The interviewers (H.V., H.R.) used a topic guide based on the research question (see Supplemental Digital Appendix 2, available at <http://links.lww.com/ACADMED/A554>). Each interview started with the question "How did you experience the MBSR training?" Next, participants were asked, "How has the training influenced your work as a resident?" The interviewers began with open-ended questions and, based on responses, followed up with cues and prompted respondents to provide additional details. The interviewers had the freedom to pursue unexpected areas of interest and probe for more detail. Topics on the topic guide included the influence of MBSR on work/professional life, working and communicating with colleagues, supervisor, work-life balance, and the relationship with patients (contact, communication). We will analyze and report data on this last topic separately. The interviews were held face-to-face, except for one interview that was administered online. The interviews lasted between 20 and 60 minutes. The audio-recorded interviews were transcribed verbatim. All data were anonymous, and unique research codes were added. We returned a summary of the interview to the participants for a member check so that they could indicate whether their answers had been represented correctly.

For purposes of triangulation, we used qualitative data from an online follow-up questionnaire that all residents received three months after participating in the MBSR course. The number of residents completing this questionnaire was 111. Data from one question was used, wherein they were asked to describe what they had learned from the MBSR and how this had affected their personal and/or professional functioning.

Table 1

Characteristics of the 19 Dutch Residents Participating in Study Interviews, From a Study of Mindfulness Training and Professional Development, Radboudumc, Nijmegen, The Netherlands, 2014–2016

Variable	Measure
Female gender, no. (%)	14 (73.7)
Age, mean (SD)	32 (6.4)
Marital status, no. (%)	
Married or in relationship	12 (63.2)
Single	7 (36.8)
Children, no. (%)	
One or more children	5 (26.3)
No children	14 (73.7)
Specialty, no. (%)	
Dermatology	1 (5.3)
Surgery	1 (5.3)
Internal medicine	2 (10.5)
Neurology	2 (10.5)
Gynecology	2 (10.5)
Psychiatry	3 (15.8)
Rehabilitation medicine	1 (5.3)
Urology	1 (5.3)
Family medicine	3 (15.8)
Elderly care	2 (10.5)
Mentally disabled care	1 (5.3)
Years in training, mean (SD)	3 (1.2)
Burnout, no. (%)^a	4 (21.1)

Abbreviation: SD indicates standard deviation.

^aEmotional exhaustion subscale ≥ 20 as assessed with the Utrecht Burnout Scale.¹⁹

Data analysis

We processed and analyzed the data using Atlas.Ti7 (Scientific Software Development GmbH, Berlin). The constant comparison method was used to analyze the data.²⁰ This method is part of the grounded theory approach in which concepts emerge as theory is formed. Within the methodology of grounded theory, the researchers constantly interact with the data, asking questions to relate concepts and to generate theory.²⁰ We began analysis as soon as the first data were collected and continued with each additional interview. Throughout, field notes and memos assisted in data analysis. Two researchers (H.V. and H.R.) independently coded the data to minimize subjectivity. Neither of the two had participated in the teaching of the MBSR courses. At the time, the primary researcher (H.V.) was a 28-year-old female business scientist and PhD student. She had practiced mindfulness for approximately 3 years and had recently graduated from the MBSR/MBCT teacher-training program. The other researcher (H.R.) was a 33-year-old female psychiatrist. She had practiced mindfulness for approximately 8 years and had taught five MBCT courses for patients with psychiatric disorders.

After every second or third interview, the codes were compared and discussed by the two researchers until they reached consensus. Then a new coding scheme was developed for further use, and new codes could be added. After 16 interviews, the two researchers grouped the codes into subthemes, and subthemes into themes, enabling them to derive hypotheses from the data. These themes and subthemes were discussed in a group discussion with the whole research team until they reached consensus. Next to the two researchers, this team consisted of a psychiatrist/mindfulness trainer (A.S.), a general practitioner (T.L.), and a work and organizational psychologist (M.H.). Two members of the research team (T.L. and M.H.) had limited professional experiences with mindfulness. After the group discussion, three more interviews were conducted. When no more relevant new codes or insights appeared, we concluded that saturation on the most important themes had been reached. For triangulation of the results, qualitative data collected in an online follow-up questionnaire were used. No new themes were found in these additional data.

Ethical considerations

According to the Dutch law, no ethical approval was required for this qualitative study. However, all participants were informed about the study, and participation was completely voluntary. We sought verbal consent to audio-record the interviews and for anonymous use of the data for research purposes before the interview commenced.

Results

Residents described the influence of the training on their professional development and functioning. The analysis of the data resulted in five themes: awareness of thoughts, emotions, bodily sensations, and behavior; increased self-reflection; acceptance and nonjudgment; increased resilience; and relating to others.

It is important to note that not all participants elaborated on each of the themes. Some participants used mindfulness as a tool for awareness and stress reduction only. They indicated that although the MBSR training had improved their awareness and insight in their own behavior, it had not resulted in any changes in attitude or behavior. The participant who reported the least effects just mentioned that the training had helped him to be more aware of the present moment and to be less judgmental toward himself. He found it hard to practice mindfulness in his daily life. The remaining participants had experiences with most or all of the themes described below.

Awareness of thoughts, emotions, body, and behavior

The residents indicated that MBSR increased their awareness during their working day in terms of thoughts, emotions, bodily sensations, and behavior. This theme was divided into “awareness of the unpleasant” and “awareness of the pleasant.”

Awareness of the unpleasant. Residents indicated that they were aware of bodily sensations, emotions, and thoughts that were associated with stress. They also reported that they were better able to see their behavioral tendencies when faced with stress and difficulties. They noticed their self-criticism, perfectionism, high standards, and their tendency to be

always busy. They mentioned that MBSR encouraged them to pay more attention to bodily sensations as these might be indicators of stress.

Yes, because I'll start thinking “I'm stressed” and then I'll feel it, or I'll recognize those thoughts and think, “There I go again, getting myself all worked up as usual.” (Female)

Awareness of the pleasant. While most residents mentioned being more aware of unpleasant experiences, some were also more aware of pleasant experiences at work. For example, they sometimes enjoyed feeling competent at work or were satisfied by the work that they had completed, rather than just regarding what had not been done yet.

It's really about awareness. I may have done it before, but I wasn't aware of it. It was like, “The day's over, and what have you done?” And I'd think, “Well, nothing special I guess.” Now I think to myself: “I did something! I did something fun or something good.” In any case, something that makes me feel good. (Female)

Increased self-reflection

The increased awareness resulted in increased self-reflection. The residents indicated that they were better able to reflect on their own clinical practice and behavior during the day in a nonjudgmental way and to examine whether particular behavior was helpful or not. They reported that when they were stressed, they were now able to stop for a moment and reflect on the situation. Some residents mentioned that although they were already familiar with reflection on their clinical skills, reflecting on their own emotions, thoughts, and bodily sensations was something new. They experienced this as helpful. Some residents indicated that they had developed the habit of briefly pausing between seeing two patients to reflect on how they were feeling.

Before, I used to worry about what I said; it was more about the content. Now, I reflect on what makes me feel bad; what affects me or makes me feel emotional. I think that's something new; something I learned during the mindfulness course. (Female)

Through the mindfulness course I realized that I needed some time to get a bit of an overview after I had seen a new patient. I only discovered this when I took a moment to reflect on how I was feeling at the time. (Female)

Acceptance and nonjudgment

The MBSR also led to attitudinal changes that were helpful at work. Many residents indicated that they had learned to adopt a less critical stance, which helped them to be more accepting toward unpleasant and difficult experiences. They were able to recognize, allow, and disidentify with unpleasant thoughts, feelings, or bodily sensations. They noticed when to be less judgmental and kinder toward themselves. Some mentioned that the MBSR helped them to accept their vulnerability, to realize that this is part of being human. Peer support was considered helpful in developing this more accepting attitude. Hearing from others that they were experiencing difficulties was helpful. Difficult thoughts and emotions became less personal as they noticed that others were dealing with the same problems. Interestingly, on one hand MBSR supported them in accepting their limitations, while on the other hand it increased their confidence in their abilities as doctors.

Particularly accepting. Accepting that I had done quite a bit of work already and accepting that there were still quite a few things I had not done yet. And, consequently, accepting that I will do that later, that I am going to give myself a moment of rest, that I am allowed to do that at a later time. (Female)

“I may be the doctor here, but I actually have no idea what I’m doing.” I think everyone has that kind of insecurity, but I used to think it was just me. [Now I know] that a lot of people think: “What am I actually doing? I’m going to fail.” I think the course taught me to accept those feelings and made me realize they are all part of it. And that I might not be as good a doctor if I didn’t have these feelings. (Female)

Increased resilience

The residents described a number of behavioral changes that arose from their increased awareness, reflection, and more accepting attitude. These could be divided into “making priorities and setting limits,” “self-care,” and “work–life balance.”

Making priorities and setting limits.

Residents reported being more resilient and better at prioritizing and setting limits. Residents realized that they had a choice in how to deal with stressors. In addition, they were better able to acknowledge their own

limits, uncertainties, and errors, and act accordingly. They improved in self-regulating unpleasant cognitive, emotional, and sometimes even physical reactions, which resulted in increased feelings of ownership of their life and work. They were better able to manage their time by more realistic planning and setting priorities. At work, this resulted in saying “No” more often. This made them more resilient at times of increased stress.

There are things you sometimes have to do outside of work hours as well; and to make a conscious decision in terms of when I’ll do that and when I won’t. When do I think it will be beneficial and when do I think it won’t. These days when I work from home, it’s because I’ve made a conscious choice to do so, and much less because I feel I have to. (Male)

Self-care. Many residents mentioned the importance of self-care. They believed that taking better care of themselves enabled them to take better care of their patients. They were not only more aware of their own needs during the day but also better able to respond to these needs. They took better care of themselves and no longer felt guilty or selfish about doing so. During workdays, this resulted in taking time for lunch, tea, or a short walk.

Especially the conscious choice to take breaks during work; to pause for a minute in front of the door, take a moment to just breathe or grab another cup of tea before seeing a new patient. (Male)

Work–life balance. Residents also told that their work–life balance had improved, for example, by taking time off for a holiday. During the evenings and weekends they were taking more time to do physical exercise, mindfulness practice, leisure activities, or meet friends. They also tried not to work on the weekends. Some switched off their work phones and e-mail during the weekends.

I was able to make a more conscious choice to put my pregnancy first and to cut back on my work hours. And a number of things happened at work that made me question what I was doing it all for, and made it easier to consciously decide to put myself first. (Female)

Relating to others

Residents described a wide range of consequences of the MBSR course in the interpersonal domain. These could be divided into “communicating with others” and “compassion for others.”

Communicating with others. Residents mentioned more awareness of their communication with colleagues. They more often expressed their own needs, and their communication was less automatic or impulsive. Some also indicated that they tended to take criticism by others as less personal. As they were more accepting of their own limitations, they dared to be more vulnerable toward colleagues and patients. This resulted in asking other residents for help more easily and being able to receive feedback from superiors in order to learn. They also communicated more readily about the limits of their own competencies with patients.

I’ve noticed that I’m much more open to feedback and that I’m not afraid that something will go wrong. I’m not as insecure as I used to be, which has had a huge impact on how I handle feedback and criticism. If my supervisor gives me advice on how to do something differently, I’ve noticed I’m much more likely to take that on board and see how it works out. (Female)

Compassion for others. Some residents mentioned an increased sense of compassion and empathy toward colleagues and patients. They were seeing the commonality between their own struggles and their colleagues’ and recognizing their shared humanity. In addition, the patients’ suffering was now sometimes also seen in the light of this common humanity.

Being mindful of my colleagues and whether they’re feeling all right is much more important to me now too, as is our working together in this. (Female)

Discussion

This qualitative study provides insight into residents’ experiences of the influence of MBSR on their professional lives. Residents who participated in MBSR indicated that the training increased their awareness and self-reflection at work, and they were more accepting toward themselves and toward their limitations. Furthermore, they mentioned that they were more resilient and better at setting priorities and limits regarding their work. They improved their self-care and took better care of their work–life balance. Lastly, in relation to others, residents indicated that the training made them more aware of how they communicated. By accepting

their limitations, they sometimes dared to be more vulnerable in contact with colleagues, asked for help more often, and seemed to be more open toward feedback. Furthermore, they indicated an increased sense of compassion for colleagues and patients.

Our findings are in accordance with theoretical and neuropsychological models by Vago and Silbersweig¹¹ and Hölzel et al⁹ about the potential mechanisms of mindfulness such as self-awareness, attention and emotion regulation, self-regulation, and self-transcendence (positive relationship between self and other). These proposed mechanisms of mindfulness were now also seen within the professional context of residents.

Furthermore, our findings show similarities with former qualitative studies on the experiences of MBSR in health care professionals.^{12,21} Although previous studies have focused more on personal development, it seems that similar processes take place in terms of professional development. Themes such as increased awareness, acceptance, and self-care seem important elements of mindfulness and can be applied both in the personal and professional context.^{12,21} The awareness of perfectionism and self-criticism seem to be especially important themes for health care professionals.¹²

Our findings show important parallels with the competencies and qualities that are crucial for medical practice and are consistent with competency-based medical educational frameworks such as those articulated by CanMEDS or the ACGME.^{3,4} Essential qualities of professionalism within the CanMEDS framework are self-regulation; a mindful and reflective approach to practice; resilience for sustainable practice; and responsibility to self, including personal care, in order to serve others. These highly relevant qualities show great overlap with the themes that were cultivated by MBSR. Self-awareness and reflection within medical education may stimulate critical thinking skills, complex clinical reasoning, lifelong learning, and the effective use of feedback.^{22–25} Our findings also indicate that mindfulness practice helps residents to become more resilient, which has been reported to be related to improved quality of life, better health, and effective coping strategies and

is therefore probably protective against burnout.^{26–30}

Our study has several limitations. First, participants in the MBSR training were self-selected, and thus motivated to participate. Second, some residents declined to participate in this interview study. Therefore, we are not certain that the full range of experiences was included. Third, residents are in training and are learning and developing in this period. The residency program itself also influences their professional development, and therefore our finding cannot be explained solely by the mindfulness training. Although we specifically asked whether the residents attributed the perceived changes to the mindfulness course, it is not possible to control for such effects in a qualitative study design.

Furthermore, this qualitative study has focused on self-reported benefits of MBSR and its potential. In future research, observer, supervisor, or patient experiences could be used to better understand how self-reported changes translate into actual observable behavior.

Moreover, based on our findings, future research might benefit from a focus on positive and health-related primary outcomes instead of symptom-focused measures. Future quantitative studies should also include positive measures such as resilience and (mental) well-being.

Although many participants in this study seemed to benefit from MBSR, this was a self-referred sample. Future research might also focus on issues such as whether mindfulness should be offered to all residents and, if so, at what stage of their training. What are the best circumstances to offer the training? Who might benefit most from the training? Does gender play an important role?

Lastly, it would be interesting to interview the participants again in a few years' time to see whether they are still practicing mindfulness and whether this influences their work as doctors.

In conclusion, our study implies that mindfulness training can serve as a tool to cultivate key personal and professional competencies for residents. Integrating MBSR programs as a tool to teach

important aspects of professionalism should be encouraged. Doing so could help residents in working and learning within our complex health care environment.

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