KOOTENAY BOUNDARY DIVISION OF FAMILY PRACTICE MINDFULNESS-BASED STRESS REDUCTION PROGRAM EVALUATION REPORT

INTRODUCTION

Mindfulness-Based Stress Reduction (MBSR) is an educational program designed to teach individuals the practice of mindful meditation. It has been used in a wide variety of health promotion applications, including enhancing empathy, and reducing stress and burnout for physicians[i].

In the fall of 2014, the Kootenay Boundary Division of Family Practice (KB DoFP) offered an 8-week Mindfulness-Based Stress Reduction Workshop to its members. A total of 23 physicians registered for the course, which was led by a trained mindfulness instructor, Dr. Rahul Gupta, who is also a GP.

After 8 weeks, participants showed statistically significant improvements in mindfulness and decreases in stress. They also showed a trend towards increased empathy, and 100% of respondents agreed or strongly agreed that the MBSR techniques have the ability to improve patient care. These outcomes are consistent with current research, and provide promising insight into improving patient and physician experience of care and reducing physician burnout.

EVALUATION METHODS

The evaluation was developed as a collaborative effort involving the KB DoFP Regional CME Coordinator and CME Program Physician Lead, MBSR Program Instructor, and the evaluation consultant.

The key questions that the evaluation sought to answer were:

1. To what extent was the program implemented as planned?
2. What impact is the program having on its participants?
3. What can we learn from this program that could be transferred to other populations or locations?

To answer these questions, the evaluation employed the following methods:

Document and Administrative Data Review

Project planning documents and relevant literature was reviewed to develop an understanding of the MBSR program, and intended benefits for participants. Administrative data review included participant attendance lists to measure overall engagement with the program.

Psychometric Scale Administration

To measure whether participant mindfulness, stress, and empathy improved over time, a pretest-post-test design was applied using three validated psychometric scales that were self-administered in hard-copy format at the beginning and the end of the 8-week course. The 3 psychometric scales used to evaluate the MBSR program were:

1. The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R, 10 item)
2. The Psychological Stress Scale (PSS, 10 item)
3. The Jefferson Scale of Empathy-Physician Version (JSE, 20 item)

Participants completed all 3 scales at the beginning of the first day of the course and again at the end of the final day of the program. Each participant was assigned a unique 'Participant Code'[ii] to anonymously identify any changes that occurred between their pre- and post-test results. The individual scales were scored by the evaluation team.

Participant Surveys

Mid-point and final evaluation surveys were administered to the participants. Both surveys solicited feedback regarding the knowledge, behaviours, and attitudes that were impacted by participation in the MBSR program. The evaluation forms were also designed to obtain feedback about the overall organization and delivery of the MBSR program. A total of 18 participants completed each of the surveys.

Key Informant Interview

Lastly, an interview was conducted with the instructor at the conclusion of the program to gain further insight into the development and delivery of the program, including changes that were made to support physicians in a rural setting. The interview was semi-directed and open-ended, to allow the interviewee to provide detailed responses.

PROGRAM DEVELOPMENT

The Mindfulness-Based Stress Reduction program was developed by Jon Kabat-Zinn and colleagues at the University of Massachusetts Medical Centre in the early 1980s, secularising various eastern traditions of mindfulness and meditation techniques. The program typically consists of weekly 2- or 3-hour sessions held in a group setting over eight consecutive weeks, and one full-day program near the end.

In response to the needs of the rural doctors who would be participating in the Kootenay Boundary program, the program instructor, Division CPD coordinator and physician lead worked together to make the following changes to the program:

1. Prior to offering the program, the program instructor gave two 2-hour presentations/ engagement sessions (in Nelson and Rossland) regarding mindfulness-based stress reduction to gauge interest in the topic and begin a dialogue with physicians in the region.
2. Once physicians had registered, the program instructor held 15-30 min phone interviews with the participants to understand their needs, identify sensitive subject areas, and ensure they understood the commitment required.
3. 5 of the 8 sessions were delivered online, in 1.5 hour online webinars (using GoToWebinars), to allow physicians from across the widespread KB region to participate.

4. Three full-day retreats were held, compared to the usual one day. The first day allowed participants to meet each other and develop trust, which was critical for ensuring productive dialogue in the online forum.

The program consisted of didactic presentations followed by collective dialogue, experiential facilitator-guided formal practices, small and large group peer dialogue around the practices, home practice requirements (given weekly) and narrative inquiry. The program sought to develop an environment of safety and non-judgment to build a sense of peer support and promote learning.

PROGRAM DELIVERY

The MBSR program was delivered in September – November 2014. The evaluation found that the program was well-attended, with 30% of program participants (7 of 23) attending all sessions and **22 of 23 participants (96%) completing the program**. On average, participants attended 24.5 out of the total 27 hours of course time.

Responses from the final evaluation survey indicated that participants were very satisfied with the organisation and delivery of the MBSR program. **All respondents agreed (22%) or strongly agreed (78%) that the MBSR program was well-organized, and all respondents felt the instructor effectively communicated the material** (6% agreed; 94% strongly agreed).

Additionally, the program instructor perceived a high level of engagement from the participants, as illustrated in the following quote:

"*In the emotional field there was rich dialogue. There was a lot of honesty, emotion and vulnerability that people were willing to admit. This is what allows the program to work well*." – Program Instructor

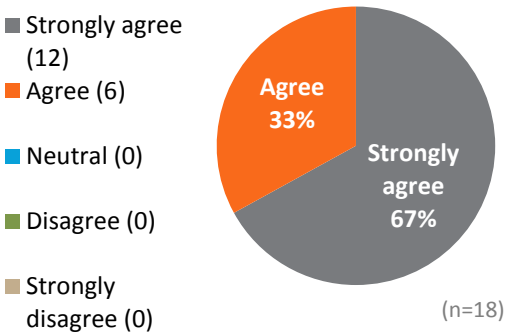
PROGRAM OUTCOMES

The evaluation found evidence of participants' increased knowledge and skills, improved mindfulness, reduced stress, and increased empathy. Participants were also highly satisfied with their experience.

1. GAINED KNOWLEDGE

Program participants felt that the program was effective in transferring knowledge. 100% of respondents agreed (39% agreed and 61% strongly agreed) that the MBSR program met their learning needs, and after participating in the MBSR program, all respondents except one agreed that they now have a better understanding of the importance of self-care.

Fig. 1 - I am more knowledgeable about formal and informal mindfulness techniques

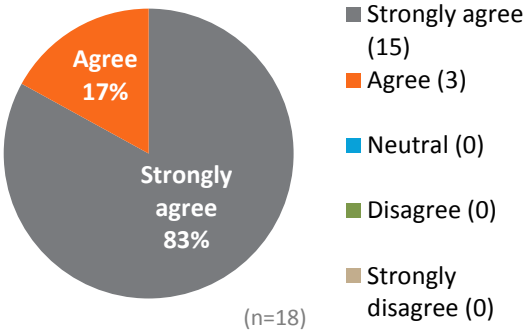


2. LEARNED NEW SKILLS

100% of respondents agreed that they are more knowledgeable about formal and informal mindfulness techniques (Fig.1), and 89% felt that they can better manage their own stress. While 11 of 17 respondents agreed that they are indeed more focussed at work, the remaining 6 respondents were unsure. Participants appeared to value the applicability of skills learned during the MBSR program, as **all respondents reported it is likely or very likely they will apply the MBSR techniques they learned in their daily lives** (Fig.2). In addition, 100% of respondents agreed that **MBSR techniques have the ability to improve patient care** (Fig. 3).

Fig. 2 - How likely is it that you will apply the MBSR techniques you learned in your daily life?

Fig. 3 - MBSR techniques have the ability to improve patient care



3. IMPROVED MINDFULNESS

Evidence in the literature suggests MBSR practice is associated with positive health benefits in clinical and non-clinical populations[iii], and several studies have found a decrease in perceived stress and an increase in self-compassion in health care professionals.[iv] In order to evaluate whether participation in the course resulted in any of the predicted benefits, psychometric scales were administered to measure changes in participant mindfulness, stress, and empathy.

Overall, the results were positive. Respondents reported **statistically significant decreases in perceived stress and increases in their mindfulness**. Improvements in empathy were not statistically significant, but showed a trend toward improvement. The following subsections discuss results from the three psychometric scales.

COGNITIVE AND AFFECTIVE MINDFULNESS SCALE The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) measured changes in participants' mindfulness.

Results were analysed using a paired one-tailed t-test in order to

PARTICIPANT QUOTES

"This is it-- so enjoy the moment. Focus on the present moment."

"Feel whatever you feel-- it's ok. Be in the present."

"Multi-tasking is not a worthy goal; fulfillment in being aware & present"

determine whether the pre and posttest scores were significantly different**. On average, there was a 2 point increase in participants' CAMS-R scores**. Analysis revealed that this was a statistically significant difference between the CAMS-R pre and posttest scores *(p=0.01).*[1]

4. DECREASED STRESS

Participation in the MBSR program appeared to have a positive effect on physician stress. Several respondents wrote about the effectiveness of stress-reduction techniques they learned in the program, and noted that the program *"focussed my intention to improve my life habits and reduce stress in my life"*.

PERCEIVED STRESS SCALE. The Perceived Stress Scale (PSS) was administered to examine whether perceived stress decreased following completion of the program. **The decrease in stress scores between the pretest and posttest scores was statistically significant** *(p=0.0001)*[2]. On average participants' PSS scores decreased by 4 points. Changes ranged from an increase of 6 points to a decrease of 9 points on the PSS scale.

In addition, participants noted in the final survey that they noticed improvements in their stress – 89% of respondents agreed or strongly agreed that they now feel better able to manage their stress (Fig. 4).

Fig. 4 - I feel I can better manage my stress

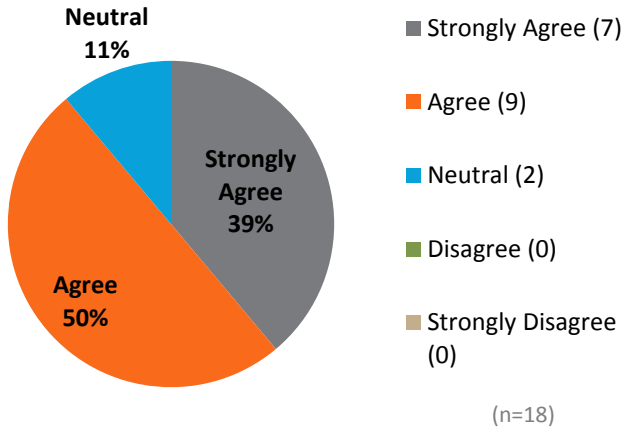
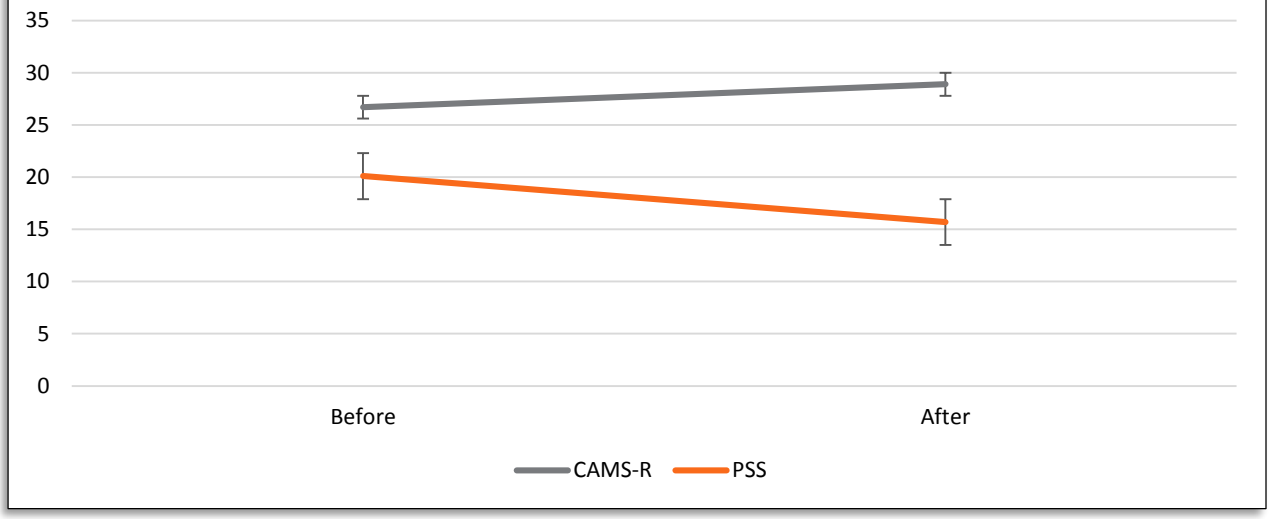


Fig. 5 - Mean scores of CAMS-R and PSS before and after the program



[1] A Paired One-Tailed T-Test was conducted at the 0.05 level (df = 18). The t stat was 2.5 and the p value was 0.01.
[2] A Paired One-Tailed T-Test was conducted at the 0.05 level (df = 19). The t stat was 4.5 and the p value was 0.0001.

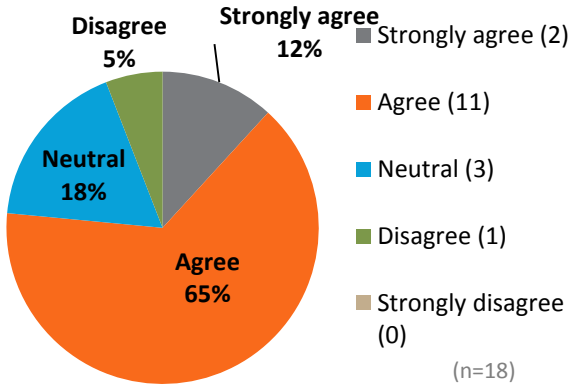
5. IMPROVED EMPATHY

JEFFERSON SCALE OF EMPATHY. Results from the Jefferson Scale of Empathy-Physician Version (JSE) revealed an average 2 point increase in respondents' empathy scores[3] when comparing the post-test scores to the initial pre-test scores, although the results were not statistically significant.

However, regression analysis revealed that **the relationship between empathy and mindfulness was statistically significant**; a one unit increase in CAMS-R scores was associated with a 0.9 unit increase in JSE scores *(p=0.048; effect size 0.2).*

These results were also reflected in the participant survey. Participants generally felt positive that their empathy had increased, as **13 respondents (77%) agreed that they were more empathetic when providing patient care** after having participated in the MBSR program (Fig. 5).

Fig. 6- I am more empathetic when providing patient care



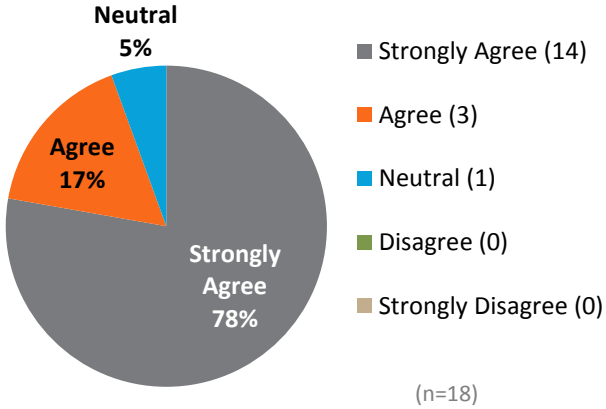
(n=18)

6. HIGH PARTICIPANT SATISFACTION

Overall, participant feedback about the MBSR program was very positive. Evaluation form responses indicate that **87.5% of respondents were *very satisfied* with their experience and 12.5% were *satisfied*.**

When asked about the most valuable thing respondents learned in the program, the most common response was 'being present' and focussing on the moment. As one respondent wrote, it was highly valuable to focus on *"moment to moment awareness"*. Other respondents also appreciated exploring mindfulness from a place of non-judgement, and as one respondent wrote they learned *"Not to judge the wandering of my mind too negatively while meditating but to see it as a normal part of mindfulness when I then return with compassion to the present moment".* Self-compassion and "loving kindness" were also described as being highly valuable by several respondents, as was regular and structured practice.

Fig. 7 - There were adequate opportunities for interaction



(n=18)

Respondents also appeared to place a high degree of value on interacting with other program participants. Indeed, when asked about the most effective aspect of the MBSR program, 8 out of 16 written responses emphasized the effectiveness of participating in the program **as a group**. Respondents specifically highlighted engaging in an "experience shared with others" and "doing

[3] Pretest mean score was 120 out of a possible 140; Posttest mean score was 122 out of a possible 140

the practices together". Correspondingly, **17 of 18 respondents agreed or strongly agreed there were adequate opportunities for interaction**, and 1 respondent was neutral (Fig. 6). Participants also developed relationships with physicians that they met– those who participated now see each other around the hospital and in town, which builds a sense of community among physicians, and may lead to strengthened primary care.

Finally, all respondents agreed or strongly agreed that they would recommend the MBSR program to other physicians.

LIMITATIONS

The results of the evaluation reflected the expected outcomes of the program. Of note, there is disagreement in the literature regarding the ability to change a person's level of empathy through an educational program[v]. Additionally, the course only directly addressed empathy on the final day on the program, so there may not have been enough time for a change to occur in this domain.

The analysis was limited by being unable to reach the 5 participants who were not at the final session. One of these participants dropped out of the program, and the other four could not be reached to complete the final survey. Attempts were made to contact all 5 by email, and one did forward his/her PSS scale for inclusion.

RECOMMENDATIONS

When asked to identify the least effective aspect of the program, respondents tended to point to the webinar sessions (7 of 9 respondents). Participants felt the webinar component was less ideal than the in-person sessions, although recognized the necessity of using this format. As one person wrote, the *"webinar is slightly difficult to engage in… [it's] easy to be passive in this format".* There also may be other web formats that could be explored.

When asked how the MBSR program could be improved in the future, suggestions tended to focus on ensuring follow-up and ongoing *"re-enforcement"* of these new *"life habits",* as well as perhaps adding more individual guidance and *"another 1 on 1 with the instructor, midway"*. One respondent also felt it would be helpful to provide patient education information or *"materials we can give to patients so they can tap into mindfulness practice"*. One person also suggested spreading the course out over a longer period of time.

The program instructor echoed many of these suggestions, and also noted that the idea of monthly follow-up maintenance sessions could be made explicit from the outset of the program. Currently, 11 of the 22 participants who completed the program are joining him for 4 refresher sessions in early 2015.

Kootenay Boundary Division of Family Practice
A GPSC initiative

REICHERT & ASSOCIATES
PROGRAM EVALUATION & RESEARCH

CONCLUSION – FAST FACTS

AFTER COMPLETING THE MBSR PROGRAM, PARTICIPANTS…

✓ Would recommend the program to other physicians	**100%** agree or strongly agree
✓ Had statistically significant increases in mindfulness & decreases in stress	
✓ Are likely to apply MBSR techniques in their daily life	**100%** likely or very likely
✓ Are better able to manage their own stress	**89%** agree or strongly agree
✓ Feel MBSR techniques have the ability to improve patient care	**100%** agree or strongly agree
✓ Were highly satisfied with their overall experience	**100%** satisfied or very satisfied

END NOTES

[i] Krasner, M.S. et al. *Association of an Educational Program in Mindful Communication With Burnout, Empathy, and Attitudes Among Primary Care Physicians*. JAMA 302, 1284-1293 (2009).

[ii] Participant code = birth month and year. (i.e., January 1955 = 01/55)

[iii] Grossman, P., Niemann, L., Schmidt, S., & Walach, H. (2004). Mindfulness-based stress reduction and health benefits: A meta-analysis. *Journal of psychosomatic research*, 57(1), 35-43.

[iv] Shapiro, S. L., Astin, J. A., Bishop, S. R., & Cordova, M. (2005). Mindfulness-based stress reduction for health care professionals: results from a randomized trial. *International Journal of Stress Management*, 12(2),

[v] Jefferson scale of Empathy Professional Manual and User's Guide (2009), p. 20