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Taking Care of Those Who Care:

Assessing Organizational and Individual Stress Management Interventions for Anti-violence Workers

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Taking Care of Those Who Care:

Assessing Organizational and Individual Stress Management Interventions for Anti-violence Workers

Final Report

Atira Women's Resource Society

November 2010

Prepared by
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Prepared for
WorkSafeBC

Main research findings and workplace health and safety implications

1. Although, on average, anti-violence workers who participated in this study reported average levels of physical, depressive and burnout symptoms compared to published norms, there was a substantial number of participants with high symptom levels:
   - 22.2% reported high levels of emotional exhaustion, 38.9% had average to high levels of cynicism, and 22.2% had low professional efficacy.
   - Also, 29.2% of participants had high levels of physical symptoms, with an additional 16.7% reporting above average symptoms, such as headaches, chest pains and dizziness.
   - Finally, 16.7% of participants had high levels of depressive symptoms, with an additional 27.7% having above average symptoms.
2. An 8-week Mindfulness-Based Stress Reduction (MBSR) group was found to significantly improve staff's ratings of their physical health, decrease their emotional exhaustion and symptoms of depression, and increase their sense of professional efficacy compared to the wait-list control group.
3. For those who chose not to participate in the intervention or the wait-list control group, the time commitment involved was a major factor. A shortened version of the MBSR program may help address this concern.
4. Staff absenteeism rates grew as the organization grew larger between 2005 and 2008.
5. Organization-level changes designed to improve staff working conditions, implemented in 2008, appear to have reversed the rising absenteeism trend in 2009. These changes include a pay increase, implementing a 9-day fortnight, more paid trainings, and organization-wide staff infosessions.
6. A focus on reducing workers' stress at organization and individual levels can have positive impacts on workers' health and well-being, as well as decrease absenteeism.

Executive Summary

One of the most taxing professional experiences may be working with survivors of violence and trauma, most often women and children (Dutton, 1992). Workers whose job it is to care for trauma survivors are exposed, on a regular basis, to the difficult stories and excruciating pain of those accessing services (Schauben & Frazier, 1995). Their ability to support trauma survivors can be compromised by experiences of burnout (Ullman & Townsend, 2007). A recent article on burnout in workers employed at women's shelters concludes that "because of the potentially devastating effects of burnout on individuals and organizations related to domestic violence, further research on how to predict, prevent, and alleviate its effects is needed" (Baker, 2007).

A recent meta-analysis of interventions aimed at reducing stress and burnout in occupational settings suggests that a combination of organizational- and individual-level interventions is most effective (Richardson & Rothstein, 2008). Interestingly, the same meta-analysis concludes that the majority of interventions do not adopt this dual approach. The present study assessed organizational level interventions undertaken by a large anti-violence women's organization in British Columbia, Canada, as well as introduced and evaluated an individual-level intervention (namely, Mindfulness-Based Stress Reduction: MBSR), making this a comprehensive and innovative approach.

We collected both qualitative and quantitative data in order to address the study's aims to: 1) measure level of implementation of and satisfaction with existing organizational level interventions (i.e., clinical debriefing, decreased work week, policies, training, feedback sessions), and examine their potential impact on absenteeism over the past five years; and 2) to assess the effectiveness of an individual-level stress

management intervention (i.e. MBSR) on perceptions of burnout, depressive and physical symptoms in anti-violence workers who received the intervention, compared to a wait-list control group.

The MBSR intervention consisted of eight 2-hour sessions (1 session per week) that focused on teaching participants gentle and compassionate ways of being with their bodies and emotions and challenging mind states through: (a) mindfulness meditation and its applications to everyday life, (b) body awareness and relaxation, (c) gentle yoga stretching and movement, (d) learning to be in the present moment and connect with moments of calm, (e) learning how to work with uncomfortable mind states and body sensations. Classes were very experiential and involved a mixture of meditation (lying down, sitting, and walking), gentle stretching and mindful yoga, teaching and discussion, understanding the stress response cycle, learning to be less reactive, and homework to facilitate bringing mindfulness into everyday life.

Forty-two staff participated in either the intervention group which received MBSR in November 2009 or a waitlist control group that received the group in February 2010. Surveys used validated measures (the SCL-90 and the Maslach Burnout Inventory) to assess and compare changes in physical symptoms, depressive symptoms, and the three dimensions of burnout: emotional exhaustion, cynicism, and professional efficacy within and between the intervention group (n=10) and the control group (n=8). In both groups, the follow-up survey assessed the participants' perceptions of organization level changes. Focus groups and individual interviews with participants (n=28) further explored their experiences of those changes. We also accessed the organization's records

of absenteeism for the past five years and collected information about the organization's size over the same period.

Our study found that organizational level changes and the implementation of a stress reduction intervention have potential to reduce burnout, depression and absenteeism in anti-violence workers. More specifically, we found that workers were generally satisfied with organizational changes, such as paid trainings, debriefing, increase in pay and having a 9-day fortnight. Absenteeism rates over a 5-year period indicated that those changes may have contributed to a decrease in absenteeism in this sample of workers.

With regard to the individual level, stress reduction intervention, we found that participants of the MBSR reported decreases in physical, depressive and burnout symptoms after the intervention, compared to a wait-list control group. Given that such symptoms are significant predictors of lost productivity, absenteeism and physical illness, investment in MBSR can help prevent those important negative consequences and improve the workers' quality of life. MBSR participants found that the skills that they learned were transferable to both their work and private life. This may help sustain a long-term effect of the intervention and contribute to further health improvements.

Our findings together indicate that organizations and their workers, especially those in caring or high stress occupations, can benefit from multiple interventions that target the structure of work as well as the individual's capacity to cope with the challenges of work. Due to the small sample size and lack of randomization, we report here on our pilot data and so future systematic evaluations of such interventions can help demonstrate their effects.

Research problem and context

Depression and occupational burnout are issues that affect employees in all occupations, but are especially prevalent among human service workers (Gilmour & Patten, 2007; Farber 1983; Thornton 1992). A recent Canada-wide survey showed that health care providers are nearly twice as likely to experience stress on the job, as are other occupational groups (Wilkins, 2007).

This research project concentrated with anti-violence workers (i.e. workers who care for women and children who have experienced abuse and violence), an occupational group that has historically been understudied and may be particularly susceptible to depression and burnout due to the nature and conditions of work (Slattery, 2003).

In addition to affecting the workers' quality of life, their organizations and the clients they advocate for, depression and burnout can have a broader economic and societal impact. For example, depression and burnout are among the main causes of short- and long-term disability claims in Canada (Brun & Lamarche, 2006).

The consequences of depression and burnout at work are not solely economic: depression and chronic stress have also been linked to adverse health outcomes. They have been found to increase inflammation (Vaccarino et al., 2007), to heighten the risk for upper respiratory infection (Cohen et al., 1998; 1991), to accelerate the progression of coronary artery disease (Rozanski et al., 1999; Kaplan et al., 1983), and to exacerbate the course of autoimmune disorders (Whitacre et al., 1995; Zautra et al, 1994; Grant, 1993). According to a recent review, burnout is associated with a variety of cardiovascular risk factors (Melamed, et al., 2006). These findings underline the significant links between depression, burnout and physical illness and point to the need for interventions that can

reduce depressive and burnout symptoms. Interestingly, intervention research is scarce, compared to work on prognostic factors of depression and burnout at work.

With regard to risk factors for depression and burnout in the occupational group of anti-violence workers, prior research has shown that pre-existing trauma and increased workload play an important role (Pearlman & MacIan, 1995; Kassam-Adams, 1995; Slattery, 2003; Iliffe & Steed, 2000). Another important prognostic factor of depression in workers is also a work/family life imbalance, which is often considered a consequence of increased workload and working hours (Wang et al., 2008; Goldblatt, Buchbinder, Eisikovits & Arizon-Mesinger, 2009).

Other, more structural, aspects of the work environment, such as working in a multi-function, emotionally intensive, crowded and closed space, making ends meet with limited resources, earning relatively low salaries, and juggling the often conflicting demands of direct practice and ideology, can pose additional challenges (Hughes & Marshall, 1995; Pahl, 1991; Peled & Edleson, 1994; Pinton & Salai, 1985; Srinivasan & Davis, 1991). Baker and Salahuddin (2007) asked 128 anti-violence workers in Washington, DC about the organizational changes that would assist them in addressing stressors at work. Twelve percent reported that improving the physical environment and facilities of their workplace would be beneficial, 10% named receiving additional training, and 9% would like more say in policymaking and being given clearer guidelines, as well as the institutionalizing of lunch breaks, break times, flex time and mental health days. Finally, several workers felt they would benefit from access to mental health resources and stress reduction workshops (8%).

Interventions

A recent meta-analysis of interventions aimed at reducing stress in occupational settings suggests that a combination of organizational and individual level interventions is most effective (Richardson & Rothstein, 2008). However, the most commonly researched are programs aimed at the individual worker, known as stress-management interventions. Relaxation type interventions, such as yoga or meditation, have been shown to reduce stress in workers, as well as be cost effective (Richardson & Rothstein). One type of stress management intervention that has received considerable and increasing attention is Mindfulness-Based Stress Reduction (MBSR).

Mindfulness-Based Stress Reduction

Christopher and colleagues (2006) have found MBSR, which was developed by Kabat-Zinn and colleagues (1992) and includes a choice of yoga, meditation and other 'mindfulness-based' practices, to be beneficial for a variety of medical conditions including chronic pain, heart disease, gastrointestinal disorders, anxiety, depression, and extreme skin conditions.

Studies with nursing, medical and premedical students who engaged in MBSR found statistically significant decreases in levels of psychological distress, including depression and anxiety, and a greater sense of control and adaptability skills as well as empathy (Rosenzweig et al., 2003; Bruce et al., 2002; Shapiro et al., 1998; Astin, 1997). In another study, focus group data from 11 graduate students in mental health counselling reported that MBSR gave them an increased ability to stay present and focussed and be better equipped, emotionally and mentally, to deal with the stress of working with clients with significant problems (Christopher et al., 2006). Similar findings have also been

reported with health care professionals (e.g. physicians, nurses, social workers, physical therapists, and psychologists) and mental health professionals (Shapiro, 2007; 2005).

Mindfulness practice has the potential to "transform those who work with clients with painful or traumatic experiences in a number of ways including becoming less reactive to stress-related or anxiety-provoking events, such as when clients are in crisis or are discussing painful emotions" (Christopher et al., 2006). Although MBSR seems relevant to the work of anti-violence workers, no studies have been found to date, which investigate the impacts of MBSR in this population.

Aims and objectives

This study focused on two levels of interventions: First, we assessed the impact of organizational level changes already undertaken by a large anti-violence women's organization in British Columbia, Canada, as experienced by the workers and reported in the organization's absenteeism records. Second, we implemented an individual level intervention (MBSR) and assessed effects on levels of burnout, depression and physical symptoms in anti-violence workers who received this intervention compared to a wait-list control group. Most research in this area focuses either on organizational changes or individual stress management (Lamontagne et al., 2007), making this a comprehensive and innovative approach.

Atira Women's Resource Society has approximately 150 employees working at 11 housing programs and 11 non-residential programs. Established in 1982 with the opening of a single transition house in White Rock, BC, it is now the largest single mandate women's organization in Canada. Minutes from early meetings at the organization suggest that "in the first few years of its existence, ATIRA experienced a

rather frequent turnover rate among staff members. In some cases "…it was due to the stressfulness of the work at the house" (Janssen, 1996). Since then, management and the board have made an effort to reduce worker turnover and improve working conditions by implementing organization-wide changes. Such changes included: a) a 9-day fortnight, in order to encourage work/family balance; b) pay increases, so that Atira staff are some of the highest paid anti-violence workers in the province; c) policies strongly encouraging employees to take their breaks (including lunch) and leave work on time; d) paid trainings to ensure workers understand the concepts behind important, yet potentially complex, practice principles (such as harm reduction, women-centred care, etc.); e) monthly or quarterly clinical debriefings for the programs working most intensely with the most difficult populations (Stopping the Violence Counselling, Children Who Witness Abuse Counselling, Shimai Specialized Transition House for Women Using Substances, and Bridge Emergency Women's Shelter in Vancouver's Downtown Eastside), f) quarterly sessions for staff to provide feedback to management and have an opportunity to connect with each other; g) extended health benefits, including an Employee Assistance Program for counselling, and h) physical improvements to the shelters and work spaces for staff.

These initiatives were aimed at addressing well-known risk factors for turnover and absenteeism, such as increased working hours, organization of work, participation in decision making and structural components of the job (which includes pay). However, to date the effect of these initiatives on absenteeism has not been formally evaluated.

Feedback from staff suggested that individual-based stress management would be additionally effective to those already implemented organizational level changes. We collected both qualitative and quantitative data to address the following study aims:

1) measure level of implementation of and satisfaction with existing organizational level interventions (i.e. clinical debriefing, decreased work week, policies, training, feedback sessions), and examine their potential impact on absenteeism over the past five years; and

2) assess the effectiveness of an individual level stress management intervention (i.e. MBSR) on burnout, depressive and physical symptoms in anti-violence workers who received the intervention, compared to a wait-list control group.

Methodology

Procedures for the MBSR intervention

Participants were employees of a community-based organization that provides services to women and their children who are survivors of violence. The study design included an intervention and a wait-list control group. The intervention group received the MBSR between November 2009 and January 2010. The wait-list control group was scheduled to participate in the MBSR between February and March 2010. Because of scheduling and issues around employee availability, the sampling was accomplished through self-referrals instead of randomization. All employees were offered the option of participating in the study. The maximum number of participants that could sign up was 24 for the intervention group and 24 for the wait-list control group. Workers were asked if they would prefer to attend an 8-week MBSR group beginning in November 2009 (the intervention group) or in February 2010 (the wait-list control group).

Participants who signed up to the study were sent a consent form and a copy of the baseline survey in a pre-stamped envelope. One of the researchers informed all participants by phone about the start date of the MBSR sessions, and about what to bring to the first session. Participants of the intervention group completed the baseline survey two weeks before the beginning of their first session and mailed it to the research team between November 4th and 18th, 2009. Control group participants completed the survey during the same period and mailed it to the research team. At the end of the MBSR sessions of the intervention group, both groups completed the follow-up survey and used the pre-stamped envelope to return the completed questionnaires to the research team between January 20th and February 15th, 2010. A memo and two reminder posters were distributed in January and February to encourage participants to complete the follow-up survey. The follow-up survey included additional questions about participants' experiences of the MBSR sessions (for the intervention group only). Finally, focus groups and individual interviews were held in February, after the intervention group had completed the MBSR sessions, and before the wait-list control group began theirs. Focus groups and interviews included MBSR participants, future participants and non-participants. By doing that, we sought to have a more comprehensive overview of the experiences around the MBSR intervention and organizational changes.

Procedures for organizational changes

In both the intervention and control groups, the follow-up survey assessed the participants' perceptions of organization level changes. Focus groups and individual interviews with participants further explored their experiences of those changes. We also

accessed the organization's records of absenteeism for the past five years and collected information about organization size over the same period.

Sample

Initially, 45 employees expressed interest in participating in the study. Of those employees, 21 signed up for the intervention group and 21 for the control group (three decided they were not able to participate). Of the 21 intervention group participants, 17 completed the T1 survey (81% response rate); of those, 10 also completed the follow-up survey (58.8% response rate between T1 and T2 participants). Of the 21 control group employees who agreed to participate, 17 completed the baseline survey (81%); of those, 8 also completed the follow-up survey (47% response rate between T1 and T2 participants). The sample's demographic information is presented in Table 1 (see Appendix 1).

A number of workers (n = 28) provided qualitative data regarding the MBSR as well as the degree to which organizational level changes were implemented and the level of satisfaction with those changes. Qualitative data were provided by workers who had already participated in the MBSR (n=10), workers who were about to take it (n=11), and those who were not going to take it (n=7), three of whom changed their minds after signing up for the group. The qualitative data were collected through: (a) focus groups (n=12), (b) in-depth individual interviews (n=7), (c) comments provided in the follow-up surveys (n=9), or (d) a short phone interview about reasons for discontinuing participation in MBSR (n=5). There was some overlap of participants in these groups.

MBSR intervention

The MBSR intervention consisted of eight 2-hr sessions (1 session per week). This 8-week course is modeled after Dr. Jon Kabat-Zinn's program at the University of Massachusetts Medical Center (Kabat-Zinn et al., 1992) and focused on teaching participants gentle and compassionate ways of being with their bodies and emotions and challenging mind states through: (a) mindfulness meditation and its applications to everyday life, (b) body awareness and relaxation, (c) gentle yoga stretching and movement, (d) learning to ground themselves in the present moment and connect with moments of calm, (e) learn how to work with uncomfortable mind states and body sensations. Classes were very experiential and involved a mixture of meditation (lying down, sitting, and walking), gentle stretching and mindful yoga, teaching and discussion, understanding the stress response cycle, learning to be less reactive, and homework to facilitate bringing mindfulness into everyday life. The program required a commitment to daily practice (about 30 minutes) for optimal benefit. Participants received a workbook and two CDs to guide them during the course and to support ongoing home use. The intervention groups were led by three MBSR specialists with extensive training and experience in teaching MBSR. Descriptions of the individual MBSR sessions can be found in Appendix 2.

Outcome measures of the MBSR intervention

Physical and depressive symptoms. Physical and depressive symptoms were assessed with the somatization and depression scales of the SCL-90 (Symptom checklist; Derogatis, 1983). The physical symptoms scale consists of 12 items ($\alpha = .84$). Example items are: '*Headaches,*' '*Soreness of your muscles,*' '*Pains in heart or chest,*' '*Trouble getting your breath.*' The depression scale consisted of 13 items ($\alpha = .87$). Example items

are: '*Feeling low in energy or slowed down,*' '*Feeling no interest in things,*' '*Feeling everything is an effort,*' '*Feelings of worthlessness.*' Respondents were asked to indicate to what extent they had been bothered by each of the symptoms over the past 7 days on a 5-point scale (1 = *not at all*, 5 = *extremely*). We constructed the scales by computing the mean of each participant's scores. Higher scores denote more physical and depressive symptoms.

Burnout. The Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996) was used to measure the three dimensions of burnout: emotional exhaustion, cynicism, and professional efficacy. The emotional exhaustion scale entails being mentally overextended and exhausted by one's work. The cynicism scale refers to a detached and impersonal response toward the people participants cared for. The professional efficacy scale is related to positive feelings such as competence and success. Participants reported how often they experienced each of the burnout symptoms on a 7-point scale, ranging from 0 (*never*) to 6 (*every day*). Each of the three subscale scores is derived from adding and averaging each participant's responses. For this study, Cronbach's alphas of .90 for the emotional exhaustion, .60 for cynicism, .84 for professional efficacy were calculated.

Qualitative data

Interviewing of individuals or groups is a valuable method for collecting data in grounded theory studies and has been described as "one of the most common and most powerful ways we use to try to understand our fellow human beings" (Fontana & Frey, 1998). Individual interviews had the advantage of eliciting stories in greater depth and complexity, and allowing the individual to control the flow of topics (Fontana & Frey,

1998; Mishler, 1996). Group interviews also had their benefits; they were more "focused" in that they evoked similar, but shorter responses, more specific to the research questions. The focus groups also provided respondents with the opportunity to build on each other's stories and to see connections and variations among their particular experiences (Marshall & Rossman, 1995; Kreuger, 1994).

Interviews and focus groups were digitally recorded and transcribed. Along with the qualitative data collected through the follow-up surveys, the data were coded and organized into themes and a conceptual framework using standard methods for thematic analysis (Flick & Von Kardorff, 2004; Miles & Hurberman, 1994; Dey, 1993).

Ethical Review

Ethical approval for the proposed project was granted by the Community-Based Research Centre's Ethics Review Board. As in all ethical research, the safety of the respondents was paramount, confidentiality was respected, and the study design included actions aimed at preventing any potential cause for distress to the participants by the research (Garcia-Moreno, 2001). Participants were paid their hourly wages for their time to participate in the intervention and in-group and individual interviews.

Research findings

MBSR intervention integrity

In order to examine the integrity of and compliance with the intervention, we asked intervention participants to evaluate the intervention at the end of the MBSR sessions and also asked the intervention trainers to keep a record of participation.

The first 8 questions on the intervention evaluation form were rated on a scale from 1 = *Strongly disagree* to 5 = *Strongly agree*. The final question was rated on a scale

from 1 = *poor* to 5 = *excellent.* The questions were the following: '*I learned a lot from this workshop,*' '*I can use what I learned in this workshop in my work,*' '*I can use what I learned in this workshop in my personal life,*' '*This workshop has met my expectations,*' '*I would recommend this workshop to a colleague,*' '*I would attend this workshop even if I wasn't paid to,*' '*My stress levels have decreased as a result of this workshop,*' '*I am better able to handle the stress of my work because of this workshop,*' and '*Where would you rate the workshop overall*?' In total, 9 participants provided completed evaluation forms. The average score on all nine questions was above the middle point of the 1-5 scale (see Table 2, Appendix 1), indicating that the MBSR was well-received by the participants. Participants also had an opportunity to make comments in response to any of the questions.

All participants except one had positive comments to make about the group, with remarks such as:

> *"Very insightful for both my professional and personal life."*
>
> *"I feel calmer, being able to "tap in" to serenity, spirituality, and to be calm and relaxed."*
>
> *"What I found was really helpful was the bodyscan, the breathing, being aware of your surroundings and just accepting things the way they were. Those are the things that I've walked away with."*
>
> *"MBSR is the only thing that actually works for me and it helps everything."*

The one critical comment about the group was:

> *"I would recommend the workshop for people who are lacking in common sense and don't know how to take time for themselves to relax."*

For workers who chose not to participate after signing up, or who withdrew after beginning the sessions, the time commitment involved for attending the group and

completing the daily homework was cited as a major factor. Other workers reported that the groups conflicted with other scheduled activities in their lives, that they already had a self-care plan and measures in place to deal with stress, or that health concerns made it too difficult to get down on the floor for some of the meditations.

With regard to level of participation in the intervention sessions, the average number of sessions attended was 5.6 (*SD* = 2.27). Seven participants (70%) were present at six or more out of total eight sessions. One participant was present only at one session, one participant attended two sessions and one participant attended three out of eight sessions.

Preliminary analyses for the MBSR intervention

We compared scores on physical, depressive and burnout symptoms of the study's sample to published norms. With regard to physical and depressive symptoms, the intervention group was considered average and control group scores were considered above average (the potential range of the norms are: very low, low, below average, average, above average, high, and very high; Derogatis, 1983). With regard to the three dimensions of burnout, the present sample had average levels of emotional exhaustion, cynicism and professional efficacy, compared to published norms (Maslach et al., 1996).

Group comparisons

We first compared participants who responded to both surveys (n = 18) to participants who completed only the baseline survey (n = 16) by means of *t*-tests and chi-square tests. We then compared the intervention group (n=10) to the control group (n=8). We compared all groups in terms of demographic characteristics, occupational

characteristics, and baseline physical, depressive and burnout symptoms. We found no significant differences among the groups.

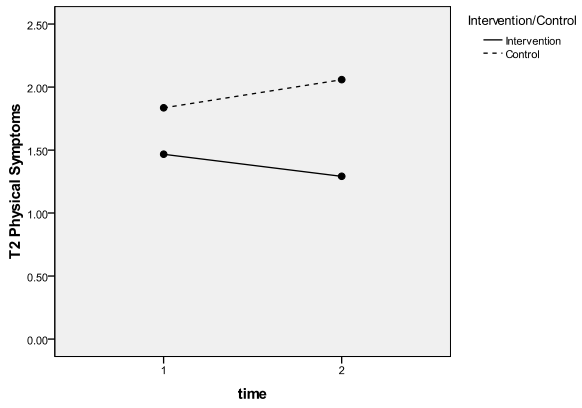
MBSR intervention effects

Our aim was to examine whether MBSR training would be effective in improving physical symptoms, and in reducing depressive, and burnout symptoms. To examine this, a two-way repeated ANOVA was carried out in which Time was a within subject factor and Group was a between-subject factor. The means and standard deviations for the intervention and control group at baseline and at follow-up, as well as the results of the intervention effects are presented in Table 3 (see Appendix 1).

According to our results, we found a significant Time x Group interaction for three out of five outcomes: physical symptoms, depressive symptoms and emotional exhaustion. The Time x Group interaction for professional efficacy approached significance. The Time x Group interaction was not statistically significant for cynicism.

With regard to physical symptoms, we first found a significant Group effect, showing that intervention group participants faired better in terms of physical symptoms than control group participants, both before and after the intervention.

Figure 1: Physical Symptoms



Importantly, we also found a Group x Time interaction, whereby MBSR intervention participants demonstrated significant reductions in physical symptoms, whereas control group participants had a tendency to experience higher levels of symptoms at follow-up.

For depressive symptoms, we found that MBSR resulted in significant reductions compared to the control group. Again, here, the control group demonstrated an increase in depressive symptoms over time (Figure 2).

Figure 2: Depressive Symptoms

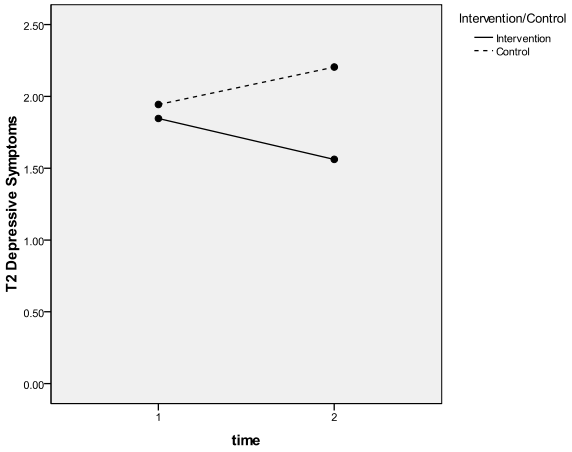
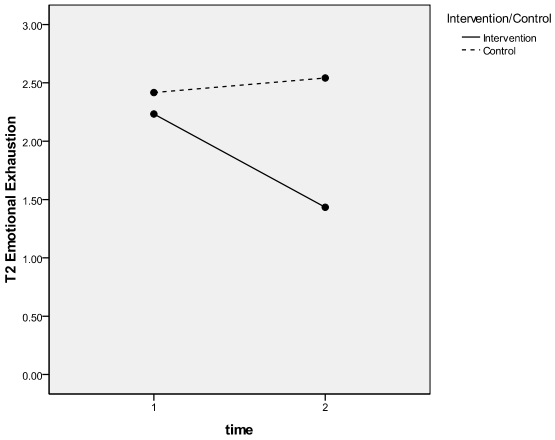


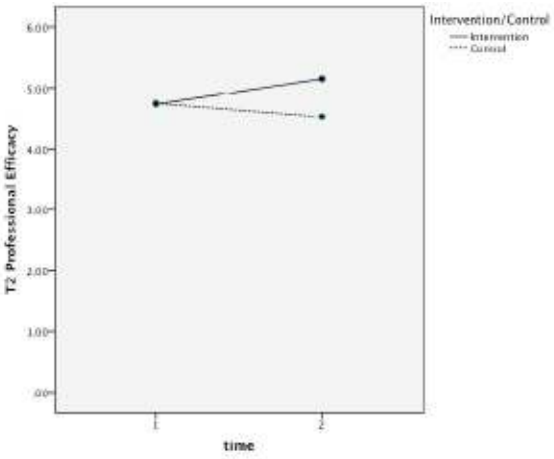
Figure 3: Emotional Exhaustion



With regard to emotional exhaustion, intervention participants demonstrated a significant decline, whereas control group participants appeared stable over time in their experience of emotional exhaustion.

The MBSR intervention had a beneficial effect on professional efficacy that approached statistical significance, with intervention participants reporting more professional efficacy over time, while control group participants showed a small decline.

Figure 4: Professional Efficacy



We performed post-hoc power analysis using the G*Power calculations (Foul, Erdfelder, Buchner, & Lang, 2009) to examine the probability of detecting significance. Our results indicated that power (1-β err prob) was 0.45 for physical symptoms, 0.99 for depressive symptoms, 0.86 for emotional exhaustion, 0.06 for cynicism and 0.36 for professional efficacy. It is important to note that these results should be viewed with caution, as post-hoc power calculations are mostly a function of the observed effect size and p value. The significance of effect and our confidence in the results can be more reliably viewed as a function of effect size and p-value (Baguley, 2004).

One MBSR participant described the effect that taking the group had on her ability to handle stress at work:

> *"I do believe that [it's changed me]. When I'm starting to feel a little bit of stress, I'm able to take it back and calm my breathing down, and broaden my view, my perspective of things and be able to come back and deal with things in a more calm manner."*

Effects of organizational changes

Participants who filled in the follow-up survey were asked to rate whether each of the following organization-level changes [quarterly meetings for all Atira staff, pay increases, working a 9-day fortnight, paid trainings, policies encouraging you to take your breaks (including lunch) and leave work on time, extended health benefits, debriefing sessions for your program, and physical improvements to the shelters and work spaces] helped them to better cope with their work, on a scale of *1=not at all* to *4=to a great extent*. Responses can be found in Table 4 (see Appendix 1).

We also asked employees in interviews and focus groups to talk about the degree to which organizational-level interventions were implemented and the level of satisfaction with those interventions.

Pay increases. In general, workers were aware that they were paid well for work in the anti-violence field, were satisfied with their wages, and thought it helped with the stressful moments.

> *When I was researching going into this field, I went to a number of infosessions and colleges and universities and my impression was that they got paid a fair bit less, and then when I applied at Atira, I was very impressed with the pay because I worked in a different field that was paid well and it was nice coming into a job that was paid more. And not only that, for something I enjoy doing and feel like I'm making a difference.*

Several workers expressed that they were in this field to "make a difference," not to make money, but that it was still nice to be paid well.

> *I find my work meaningful, that's a big thing.*

> *I was willing to take a pay cut [to have a meaningful job] but it was nice to find out that I was being paid $4 or $5 more[per hour] than some of the places I've looked into.*

A few workers expressed that despite being paid well relative to other anti-violence workers, they would like the whole field (including Atira) to be more highly compensated.

> *We're working in a field that's not valued the way it should be. And so for the individual worker, you're trying to do a job that's difficult to do at best, then there's no support from the external world necessarily, and you're not paid what that work should be paid. Not through the fault of the organization, but just through the way the world works…I can see how there's workers for whom that could be difficult.*

9-Day Fortnight. The majority of workers we spoke to were happy to be alternating between five-day and four day work weeks and thought it contributed to their job satisfaction and having a more healthy work-life balance.

> *For me, it is so important to work 36 hours a week, and no more. I really try to have a boundary around that. I don't think I could come to my work every day and say 'I'm going to just give it everything I've got' if my day didn't end at 5.*

> *And if I didn't have the 9-day fortnight, I don't think this would be sustainable, I really don't.*

A few workers said they would not mind working less (4-days per week) and would find the time gained worth the resulting pay cut, while a few would like to work more (40 hours per week) in order to earn more.

> *I work [a 9-day fortnight] and I love it. I would be happy working a 4-day workweek every week, but I'm very happy that I get every second week where I have an extra day off. I find that makes a world of difference. Although you get paid a little bit less, that doesn't matter to me. Having an extra day with my family makes a real difference.*

> *I would love to be able to work 40 hours every week. I would like to get another job because I'd like to have a raise. I'm a single mom… I have a great job but for me and my child, making ends meet, I'm the working poor basically.*

Policies encouraging staff to take their breaks (including lunch) and leave work on time. Staff generally felt that these policies were well enforced, and played a role in helping them better cope with their work.

> *I can leave on time. On a rare occasion, I will stay a couple of minutes.*

> *I'm encouraged to take my lunch. My manager is supportive of it.*

Program managers discussed supporting their staff to take their breaks and lunch, but not always doing the same for themselves.

> *I know I encourage my staff to do it [take lunch and breaks] but I don't do it. It's so funny sometimes.*

In addition, they described policies regarding managers leaving on time being different, resulting in them at times staying up to hours extra without being paid for it, and how this could contribute to stress.

An hour here, an hour there, two hours here, it all adds up. It is important to realize that we're all dedicated, but we should be paid for our time, whether that's 12 hours or 8 hours. I think it does make a difference.

One participant also spoke about seeing upper management working long hours, and how this made her feel that she could not always ask for support from them.

[One of the Directors] stays late all the time. And I get that she's a manager and stuff, but she's got so much on her plate. And it makes you feel like 'I don't think I should be demanding any more of people in those roles because I just know they're totally tapped out. But it doesn't really change the issue. Challenging work!

Staff also discussed how important their lunch break was for doing their job well, and many felt it could be longer than half an hour or, at minimum, uninterrupted.

I'm definitely encouraged to take them [lunch and breaks] but there are times where you're sitting there eating your lunch, and it's clear that you're in the lunch area eating your lunch, and other staff will come and say 'So and so is here and they really need this or that' and it puts you in a really tough spot.. And it happens really frequently… and it kind of puts it on that staff member to set that boundary…you're put in an awkward position because you're forced to say 'no, I'm not willing to help this homeless woman because I'm eating my lunch right now' and who wants to say that? Sometimes when I'm feeling really stressed, I'll just go and get lunch… If I leave, then I have my time, and you know it will probably get sorted out.

I do feel like I need that time. I feel that half an hour is pretty short… it would be ideal to have a 45 minute lunch so you could at least go and have a bit of down time. But you're coming back to taking that time away from women and I think that's tough.

Staff who had been around a number of years remembered that this had been an issue in the past, that staff had been given the choice and they chose to have just the half hour.

Staff had the choice, and people wanted just the half hour. This was back in the day when Atira could ask more questions. I think that's what's hard for the newer people and how Atira's grown. It just has to be what it is right now. I know in the past Atira has tried to be more flexible around things… As it grows bigger, there just has to be one set of rules for everybody. So I know in the past people decided to just have that half hour rather than an hour, then leave a half hour earlier.

Extended health benefits (including EAP counseling). Staff were generally appreciative of their extended health benefits and felt it contributed to reducing their stress.

> *Extended health benefits…that's certainly a huge stress reducer. To have that available to get some money towards dental and optometrists…it's good to know that you can get stuff like that covered.*

> *It's really important to have [health benefits] and it's nice to be in a workplace where you have those things in place for you. I think it makes you feel cared about, actually.*

A few participants expressed that staff who are part-time or have worked less than three months could also benefit from extended health.

> *I know that [EAP counselling] services are available, but they're not available for the new people who really really need them. That's when I really needed it, when I first came in. It was stressful, my immune system was down from sleeping weird hours, I was experiencing so many overwhelming things, and there was just no support for that. I think there needs to be something for the new people.*

Staff expressed that having access to free counselling through work was important.

> *It's assurance that if anything was to happen to me, I would be able to see a counsellor because of stress or if I had to take time off it would be assurance that I would at least be paid something. I don't think a person can work in this field without having access to some kind of free counselling.*

However, discussion of the Employee Assistance Program (EAP) that Atira uses suggested that at least some of the staff did not find it helpful.

> *I accessed it once, and I didn't personally find useful. I totally understood what the counsellor was saying and I get it, but assertiveness was not helpful in this situation. I know that other staff have used it and speak highly of it.*

> *Sometimes that telephone number you're given [for EAP counseling] isn't enough, when you're experiencing vicarious trauma…It would be good if there was a person in the organization that was trained, that you could speak to, not just your boss.*

The idea that it would be beneficial to have 'debriefing' available to Atira programs was a recurring theme in the interviews.

Debriefing sessions. Regular debriefing sessions are available to some of the more specialized programs, and staff from those programs spoke very highly of it.

> *Clinical debriefing has always worked really well. [The counsellor] was really great at supporting staff. Staff really knew and understood that things were confidential. Staff really benefited from them. Those sessions have worked better in crisis situations than extended health…Usually when something has happened at one of the houses, it has impacted the whole team. I think that group debriefing, in my experience, at Atira has always had a really good outcome.*

Staff from programs without debriefing expressed a desire to also have it available to them.

> *Debriefing would be amazing. Maybe someone that has a little bit of understanding of what you're going through.*

> *More debriefing, perhaps every 3 months. You don't always want to call your manager.*

> *We could have more team building in the different programs, getting things worked out. Little petty stuff comes up and I think there should be a forum where we can just bitch.*

It was also suggested, by both staff and managers, that it would be beneficial to have debriefing for managers only.

> *You just hold it in and it gets worse, so you need to find somewhere to release it. Even if you talk to another manager, you don't know what she might take personally, or take to another level…It would be nice to have something just for managers where you can go and spill your guts then walk away and be fine.*

Physical improvements to shelters and workspaces. Responses to questions about physical workspaces were as varied as the dozen different worksites Atira has. Workers

did feel that a nicer work setting was helpful to their state of mind but also recognized that the resources were not always there to make improvements.

> *I would say I'm quite comfortable at [my program]. It's like a home setting. I find it quite relaxing.*

> *Even at the [head] office right now, the hot water tank blew for the main bathroom so there's no hot water, and women come in and they're like 'what kind of place are you running here? This is ridiculous'. Yeah, you should have hot water, it is ridiculous, but we don't have money to replace our hot water tank.*

Paid Trainings. Staff expressed appreciation for the training they were paid to attend through work, referring to both external facilitators and trainers from within the organization.

> *I appreciate the training that I have [gone] to up to this point.*

> *I think that paid trainings are excellent…That Atira is willing to pay for that training is great, it's a real benefit in this day and age.*

Some staff pointed to the need for regular re-training.

> *Paid trainings are huge. It would be good to do the same training every year so it's re-instilled.*

> *I think with a lot of the training we do, we go, we learn it, and then it kind of gets forgotten. Maybe if they came around more often.*

Other staff found benefiting from training difficult when working overnight shifts.

> *I wish they hadn't made me go to training after my shift ended [in the morning], so there was only so much I could get out of training when I was desperate for sleep…Whatever we have, whether it's a meeting or training, it always screws up somebody's sleep schedule no matter what time it's at.*

Staff also expressed a desire for more training but recognized that it needed to be balanced against the use of resources and providing direct service to women.

It's challenging, but at the end of the day, we're providing services to high needs women, so I get how there's a level of where it's not about us going to workshops every week for stuff, we're supposed to be providing a service. But you've got to have balance, and you have to feel like you're confident in what you're doing and you've got proper training.

Several staff pointed to the need to make training more relevant by asking staff about their training needs, and tailoring training to individual programs.

I think if they could ask staff within each house, because there's the idea that one type of training fits all. But then you have your different programs…It's not that everyone has to have the same training, that's what's unique about each program.

And again having that staff input – 'What do you think would benefit our program right now? What kind of training?'

If Atira could poll staff, and maybe ask them what kind of training would be beneficial. If that was the kind of things they did in those twice a year meetings

Quarterly meetings for all Atira staff. Staff discussed the organization-wide infosessions that were implemented in 2008, which are now being held twice a year. They described how they felt they were implemented initially in order for management to hear concerns from staff, and that valuable changes came from that.

I think they're good, I think they're helpful…It basically made it clear that…there were employees that had issues... it was like, 'Okay, can we try to resolve these things internally so we don't have to have this become a big thing that might not benefit everybody?'

The first sessions were really about those issues, head on…Issues around wages…not having the proper supplies, the proper resources, whether there were health and safety issues that were getting addressed. It was really things along those lines, whether there was proper training and orientation, the interviewing process and hiring…There were conversations around that…they were very on point and I think it was helpful.

I think there was a big effort to make changes there. Changes to make sure there was the proper supplies. Changes around the interviewing process. More effort to make sure they [the postings] went out to everybody. And now there's two

people [interviewing], and they're different people, they get rotated so everyone gets an opportunity to be involved in it, to make it more transparent. Those are the changes I'm aware of; there might be other ones as well.

There were legitimate concerns and there were changes made based on those legitimate concerns.

They'd make changes accordingly. So I thought that was pretty effective.

Participants also discussed how the meetings had evolved more into an opportunity for management to share information with staff and that, while that was good, there still needed to be mechanisms for staff to continue to share their concerns.

Those initial meeting addressed those issues, and I think we've sort of moved away from that, and I think those were the more helpful things.

I like that management is introducing programs.

For the Atira-wide staff meetings…that's where staff are not too sure about things, and it's important for [upper management] to be able to provide the information.

I think there does need to be an ongoing forum for staff issues. Otherwise, you're going to have the same issue…if you don't have an outlet for those issues… I'm not saying we need to do that all the time, but at least some form and then we can get it out.

It's kind of put out there as listening to staff, but it's more about telling staff, about what Atira is. Would they be willing to ask staff what staff think they want, then try to find a way to do that?

Staff supportively described the process used in an earlier meeting to elicit employees' concerns; few employees felt that the current feedback process allowed them to confidentially raise issues, or that employees' concerns were always well received.

You would go into small groups and create a list of 'Here's what we see as issues' and then it's a really nice format because no one's really being put on the spot. Then each group says 'here's what we see as issues' and it was quite interesting to see the different themes.

[Now] a hat is placed in the middle of the room and if you have a question, you can go put it in the middle in the hat. I think if they had a place where it was more confidential and not everybody saw you put that question in the hat. It would

probably work if everyone had to write something, that way no-one would be singled out. But the problem is that people don't explain their question properly, then they're not getting the answer they need, so they put their hand up and go 'Well, I asked that…'

To be honest, if we're being asked for feedback and management is in the room, I think a lot of people do hold back…It's kind of an awkward situation…as far as the feedback end of it, I can't say as though it is really helpful.

So to have those meetings where you say you want to hear from staff, then if you hear from staff things you don't like, I've seen that be reacted against… It's almost like staff get into trouble when they do voice difference or concerns.

Staff suggested using information technology to solicit feedback and concerns from staff, and for sharing information about changes or new programs. In addition to questions or concerns being more confidential, this would have the added benefit of working better for staff on night shifts.

I think the questions in the hat, they could modify that some more. I know we have our website, maybe they could do something confidentially on a website and have a place where they answer those questions rather than going 'oh my god, I'm writing this down, am I going to be fired'…so if there were somewhere more confidential where they could post a question and have somebody answer.

In terms of asking questions, if there was a way I could do that via email that would be ideal for me personally.

Sending out information via e-mail always work for me. That works a lot better in terms of taking information in than when I'm in a room feeling anxious and sleep deprived.

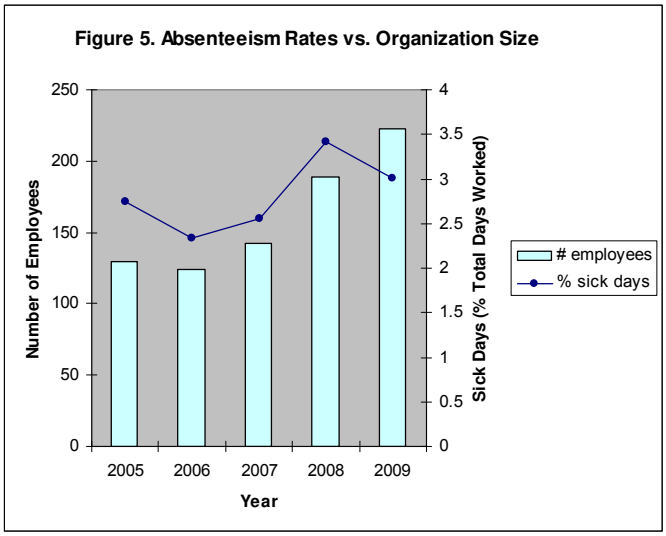
Overall staff did still see the benefits of the meetings and thought the opportunity to meet staff from other programs within the organization and to learn about changes and new programs was invaluable.

I like going to them, I see the opportunity for networking with other people within Atira.

I think they're really helpful in the sense that people get to put faces to programs, because they change so often. You talk to them once a week but you've never met them. And then the updates for the programs, what's going on, because Atira is growing quite a bit.

Absenteeism rates

We calculated absenteeism (due to sickness) rates for employees with benefits (part- and full-time employees who had been there for three months or more) as a percentage of total sick days/total days worked. We looked at data from the previous five years (2005-2009) and found that absenteeism rates followed the growth in the number of staff at Atira from 2005 to 2008. In 2008, a number of the organization-level changes described above were introduced (infosessions, 9-day workweek, pay increase, and more paid training). Although up to 2008 absenteeism rates followed the growth of the organization, in 2009, the absenteeism-growth association was interrupted: Absenteeism rates dropped, approaching 2005 levels, even though the organization continued to grow, more than ever before (see Figure 5). This may be due to the introduction and implementation of the organizational changes.



Implications for future research/projects on workplace health and safety

The MBSR intervention was offered to a small sample of women working in the anti-violence sector and so future work can examine whether workers (including men) in other sectors could also benefit from a similar intervention. The organizational level changes as well as the MBSR intervention could be of relevance to workers in high stress occupations, such as emergency response employees.

Although the modest sample size limits our ability to draw further conclusions, our study found that the effect sizes were large and indicate that this intervention may be a worthwhile long-term investment. In addition, although we did not find any significant differences between responders and non-responders to the follow-up survey, the response rates were modest, and so future work with a larger sample size and lower attrition may offer a more rigorous test of our conclusions. Providing this intervention to a larger group of anti-violence workers across the province (and beyond) would be an important next step in assessing the generalizability of the findings.

Due to the use of a wait-list control group, staff availability and sample size, we were unable to randomize our sample. We therefore are not aware whether any potential selection biases in our sample may have affected our results. A randomized controlled trial offering MBSR could overcome those concerns and offer valuable knowledge about the benefits of this approach. In addition, we were unable to collect longitudinal data for group comparisons, as the wait-list control group received the intervention immediately after the end of the MBSR in the intervention group. Future work can examine the long-term effects of MBSR.

We also found that time commitment was the most significant barrier in participating in the intervention. Others (Mackenzie, Poulin, & Seidman-Carlson, 2006;

Pipe, et al., 2009) have found that a shorter MBSR program can have similar, meaningful and beneficial effects. A comparison of a longer versus shorter duration program would be useful in helping make informed decisions on this topic. Another possibility is offering and researching the effects of a web-based version of MBSR training that would be continuously available to workers. Workers could access the training as their schedule permitted.

Finally, it would be interesting to continue to observe absenteeism and growth trends in the future to better capture longer-term effects of organizational changes and of the MBSR intervention. Another outcome of interest could be turnover rates. In addition, it would be interesting to examine the potential synergistic effects of organizational and individual level interventions on future absenteeism and turnover rates. Do workers who receive both types of interventions fare better than workers who receive only one type?

Identification of immediate and long-term benefits of the findings or results

Our study found that organizational-level changes and the implementation of a stress reduction intervention have potential to reduce burnout, depression and absenteeism in anti-violence workers. More specifically, we found that workers were generally satisfied with organizational changes, such as paid trainings, debriefing, increase in pay and having a 9-day fortnight. Absenteeism rates over a five year period indicated that those changes may have contributed to a decrease in absenteeism in this sample of workers. These findings provide a rich source of information regarding promising practices for organizations interested in addressing problems of absenteeism and employee stress and burnout.

With regard to the stress reduction intervention, we found that participants of a MBSR group reported decreases in physical, depressive and burnout symptoms after the intervention, compared to a wait-list control group. Given that such symptoms are significant predictors of lost productivity, absenteeism and physical illness, investment in MBSR can help prevent those important negative consequences and improve the workers' quality of life. Workers who participated in the MBSR found that their newly acquired skills were transferable to both work and private life. This may help sustain a long-term effect of the intervention and contribute to further health improvements.

Our findings indicate that organizations and their workers, especially those in caring occupations, can benefit from multiple interventions that target the structure of work as well as the individual's capacity to cope with the challenges of work. Systematic evaluations of such interventions can help demonstrate their effects.

Identification of relevant user groups for the research results

Anti-violence women's organisations, including front-line workers and management who have the ability to implement stress management interventions comprise the most relevant user group for the research results. Additionally, workers and management in healthcare or social services could benefit from the knowledge that MBSR interventions could be effective in their line of work. Occupational health researchers and organizations that promote workplace health and safety will also be interested in our findings.

Dissemination/knowledge transfer

We will present the findings first to Atira's managers and front-line staff at an organization-wide infosession. We will produce an accessible, non-academic

'community report' for distribution through provincial anti-violence organizations including the BC Association of Specialized Victim Assistance Services, BC/Yukon Transition House Society, RCMP Victim Services, the Provincial Woman Abuse Response Program, Provincial Women's Health Services, Ministry of Children and Families, and the Ministry of Community, Women and Aboriginal Services, in order to ensure that any and all who could benefit from the findings are made aware of them. This document will also be publicly announced and made available on Atira's website. Additionally, Atira's Executive Director and the researchers are invited each year to speak at a number of conferences, AGMs, staff meetings, symposia, etc. We would use these opportunities to raise awareness of our research findings amongst potential end users.

To reach an even wider audience of those who work in the anti-violence field, we will be submitting our findings for publication in the peer-reviewed academic journal *Violence Against Women*. This project adds important new evidence to the body of scientific literature regarding the causes and management of work-related stress amongst anti-violence workers.

We were accepted to present our findings on May 28th, 2010 in Toronto at the Canadian Association for Research on Work and Health Conference (CARWH 2010) hosted by the Institute for Work & Health, thus reaching a large number of occupational health researchers and students as well as representatives from organizations across Canada that promote workplace health and safety. The slides from our presentation will be posted on the CARWH 2010 website. We hope that WorkSafeBC will further help us

in disseminating our findings amongst its partner organisations in other Canadian provinces.

WorkSafeBC will be duly and gratefully acknowledged for their funding of this project in all knowledge transfer activities.

References

Astin, J. A. (1997). *Stress reduction through mindfulness meditation. Effects on psychological symptomatology, sense of control, and spiritual experiences.* Psychotherapy and Psychosomatics, 66, 97-106.

Baguley, T. (2004). *Understanding statistical power in the context of applied research.* Applied Ergonomics, 35, 73-80.

Baker, L. M. and Salahuddin, N.M. (2007). *Are shelter workers burned out?: An examination of stress, social support and coping.* Journal of Family Violence, 22, 465-474.

Bruce, A., Young, L., Turner, L., Vander Wal, R., & Linden, W. (2002). Meditation-based stress reduction: Holistic practice in nursing education. In L. Young & E. Virginia (Eds.), *Transforming health promotion practice: Concepts, issues, and applications* (pp. 241-252). Victoria, Canada: F. A. Davis.

Brun, J-P., & Lamarche, C. (2006). Assessing the costs of work stress. Research Report. http://www.cgsst.com/stock/eng/doc272-806.pdf

Christopher, J.C., Christopher, S.E., Dunnagan, T. & Schure, M. (2006). *Teaching Self Care Through Mindfulness Practices: The Application of Yoga, Meditation, and QiGong to Counselor Training.* Journal of Humanistic Psychology, 46 (4). Pp. 494-509.

Cohen, S., Tyrrell, D.A., & Smith, A.P. (1991). *Psychological stress and susceptibility to the common cold.* New England Journal of Medicine*I,*325,606-612.

Cohen S, Frank E, Doyle WJ, Skoner DP, Rabin BS, Gwaltney JM, Jr. (1998): *Types of stressors that increase susceptibility to the common cold in healthy adults*. Health Psychology;17:214-223

Derogatis, L. R. (1983). SCL-90-R: Administration, scoring and procedures manual-II (2nd ed.).Baltimore: Clinical Psychometric Research.

Derogatis, L., & Cleary, P. (1977). *Confirmation of the dimensional structure of the SCL-90: A study in construct validation.* Journal of Clinical Psychiatry, 33, 981–989.

Dey, L. (1993). Qualitative Data Analysis: a user-friendly guide, Routledge.

Dutton, M. A. (1992). *Empowering and healing the battered women*. New York: Springer.

Farber, B.A. (1983). Introduction: A critical perspective on burnout. In B.A. Farber (Ed.), *Stress and burnout in the human service professions.* (pp. 1-20). New York: Pergamon.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). *Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses*. Behavior Research Methods, 41, 1149-1160.

Flick, U., E. Vvon Kardorff, et al. (2004). A Companion to Qualitative Research. London, Sage.

Fontana, A. and J.H. Frey, *Interviewing: the art of science*, in *Collecting and interpreting qualitative materials*, N.K. Denzin and Y.S. Lincoln, Editors. 1998, Sage: Thousand Oaks. p. 47-78.

Garcia-Moreno, C. (2001). *The World Health Organization addressing violence against women.* Development. 44(3): p. 129-32.

Gilmour, H. & Patten, S. (2007). *Depression and Work Impairment.* Health Reports, 18(1). Statistics Canada. Catalogue 82-003.

Goldblatt, H., Buchbinder, E., Eisikovits, Z. & I. Arizon-Mesinger. (2009). *Between the Professional and the Private.* Violence Against Women, Vol. 15, No. 3, 362-384

Grant, I. (1993) Psychosomatic-somatopsychic aspects of multiple sclerosis, in Halbreich U (ed): *Multiple sclerosis: A neuropsychiatric disorder*. Washington, DC, American Psychiatric Press, pp 119-136

Hughes, H.M. & Marshall,M. (1995). Advocacy for children of battered women. In E. Peled, P. Jaffe, & J.L. Edleson (Eds.) *Ending the cycle of violence: Community responses to children of battered women* (pp. 121-146). Newbury Park, CA: Sage.

Iliffe, G., & Steed, L.G. (2000). *Exploring the counselor's experience of working with perpetrators and survivors of domestic violence.* Journal of Interpersonal Violence, 15 (4), 393-412.

Janssen, R. (1996). *Herstory '82 – '95.* Atira Women's Resource Society. Downloaded September 2, 2008 from http://atira.bc.ca/history.html

Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., & Pbert, L. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry, 149*, 936-943.

Kaplan, J.R., Manuck, S.B., Clarkson, T.B., Lusso, F.M., Taub, D.T. & Miller, E.W. (1983). Social stress and atherosclerosis in normocholesterolemic monkeys. *Science,* 220,733-735.

Kassam-Adams, N. (1995). The risks of treating sexual trauma: Stress and secondary trauma in psychotherapists. In B. H. Stamm (Ed.), *Secondary traumatic stress: Self care issues for clinicians, researchers and educators* (2nd ed.). Lutherville, MD: Sidran.

Kreuger, R.A., *Focus groups*. 2nd ed. 1994, Thousand Oaks: Sage.

Lamontagne, A.D., Keegel, T., Louie, A. M., Ostry, A. & P. A. Landsbergis (2007). A Systematic Review of the Job-stress Intervention Evaluation Literature, 1990–2005. International Journal of Occupational and Environmental Health;13: 268–280

Mackenzie, C.S., Poulin, P.A. & R. Siedman-Carlson (2006). *A brief mindfulness-based stress reduction intervention for nurses and nurse aides.* Applied Nursing Research; 19: 105-109.

Marshall, C. and G.B. Rossman, *Designing qualitative research*. 2nd ed. 1995, Thousand Oaks: Sage.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach burnout inventory manual* (3rd ed.). Mountain View, CA: Consulting Psychologists Press.

Melamed, S., Shirom, A., Toker, S., Berliner, S., & Shapira, I. (2006). Burnout and risk of cardiovascular disease: Evidence, possible causal paths, and promising research directions. *Psychological Bulletin, 132*, 327-353.

Miles, M. & M. Hurberman (1994) Qualitative Data Analysis: an expanded sourcebook. London, Beverley Hills.

Mishler, E.G. (1996) *Research interviewing: context and narrative*. Cambridge: Harvard University Press.

Pahl, J. (1985). Refuges for battered women: Ideology and action. *Feminist Review, 19*, 24-43.

Pearlman, L.A., & Saakvitne, K.W. (1995). Treating therapists with vicarious traumatization and secondary traumatic stress disorders. In: Figley, C.R. (Ed.), *Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those Who Treat the Traumatized.* Brunner/Mazel, New York, pp. 150–177.

Peled, E. & Edleson, J. L. (1994). Advocacy for battered women: A national survey. *Journal of Family Violence, 9*, 285-296.

Pinton, N, & Salai, Y. (1985). *The Ashdod battered women's shelter: A research report*. Jerusalem: The National Insurance Institute, Research and Planning Administration.

Pipe, T.B., J.J. Bortz, & A. Dueck (2009). *Nurse leader mindfulness meditation program for stress management: A randomized control trial.* The Journal of Nursing Administration. 39(3): 130-137.

Richardson, K. M. & Rothstein, H. R. (2008). *Effects of Occupational Stress Management Intervention Programs: A Meta-Analysis.* Journal of Occupational Health Psychology,13 (1), 69–93.

Rosenzweig, S., Reibel, D. K., Greeson, J. M., Brainard, G. C., & Hojat, M. (2003). Mindfulness-based stress reduction lowers psychological distress in medical students. *Teaching and Learning in Medicine, 15*, 88-92.

Rozanski, A., Blumenthal, J.A. & Kaplan, J.R. (1999). Impact of psychological factors on the pathogenesis of cardiovascular disease and implications for therapy. *Circulation*, 99, 2192-2217.

Schauben, L. J. & Frazier, P.A. (1995). Vicarious trauma: The effects on female counselors of working with sexual violence survivors. *Psychology of Women Quarterly, 19*, 49-64.

Shapiro, S.L., Brown, K.W. & G.M. Biegel (2007). *Teaching Self-Care to Caregivers: Effects of Mindfulness-Based Stress Reduction on the Mental Health of Therapists in Training.* Training and Education in Professional Psychology. 1 (2), 105–115

Shapiro, S.L., Astin, J.A., Bishop, S.R., & M. Cordova (2005). *Mindfulness-Based Stress Reduction for Health Care Professionals: Results From a Randomized Trial.* International Journal of Stress Management, 12 (2), 164–176

Shapiro, S., Schwartz, G., & Bonner, G. (1998). Effects of mindfulness-based stress reduction on medical and premedical students. *Journal of Behavioral Medicine, 21*, 581-599.

Slattery, S.M. (2003). Contributors to secondary traumatic stress and burnout among domestic violence advocates: an ecological approach. Ph.D. thesis. Boston College, Lynch Graduate School of Education, Department of Counseling, Development and Educational Psychology.

Srinivasan, M., & Davis, L.V. (1991). A shelter: An organization like any other? *Affilia, 6*, 38-57.

Thornton, P. I. (1992). *The relation of coping, appraisal, and burnout in mental health workers.* Journal of Psychology Interdisciplinary and Applied, 126(3), 261–272.

Ullman, S.E. & Townsend, S.M. (2007). *Barriers to Working With Sexual Assault Survivors: A Qualitative Study of Rape Crisis Center Workers.* Violence Against Women, Vol. 13, No. 4, 412-443

Vaccarino, V., Johnson, D. B., Sheps, D. S., Reis, S. E., Kelsey, S. F., Bittner, V., Rutledge, T., Shaw, L. J., Sopko, G., Bairey Merz, N. C. (2007). Depression, inflammation, and incident cardiovascular disease in women with suspected coronary ischemia: The National Heart, Lung, and Blood Institute–Sponsored WISE study. *Journal of the American College of Cardiology, 50*, 2044-2050.

Wang, J. L., Lesage, A., Schmitz, N. & A. Drapeau, A. (2008). Drapeau. The relationship between work stress and mental disorders in men and women: findings from a population-based study. *Journal of Epidemiology & Community Health,* 62, 42-47.

Whitacre, C.C., Cummings, S.D. & Griffin, A.C. (1995). The effects of stress on autoimmune disease, in Glaser R, Kiecolt-Glaser JK (eds): *Handbook of human stress and immunity*. New York, Academic Press, pp 77-100.

Wilkins, K. (2007). Work stress among health care providers. *Health Reports* (Statistics Canada Catalogue no. 82-003), *18*(4), 33-36.

Zautra, A.J., Burleson, M.H., Matt, K.S. & Roth, S.A. (1994). Interpersonal stress, depression, and disease activity in rheumatoid arthritis and osteoarthritis patients. *Health Psychology,*;13.139-148.

Appendix 1: Data Tables

Table 1

Demographic information

	Intervention group * n = 10	Control group n = 8
Personal demographic characteristics		
Age, years (*M*, *SD*, range)	35.1, 11.9, 22-54	25.4, 10, 23-49
Gender (women)	88.9%	100%
Education:		
Up to high school	22.2%	-
Trade or some university	33.3%	50%
Completed university	44.4%	50%
Graduate degree	-	-
Marital status:		
With partner	66.7%	37.5%
Single	22.2%	37.5%
Divorced/Separated	11.1%	25%
Children	44.4%; *M* = 2.5 children, *SD* = 1, range 1-3	37.5%; *M* = 2.7, *SD* = 0.6, range 2-3
Household income:		
Up to $29K	22.2%	37.5%
30K to 69K	66.6%	62.5%
70K to 89K	11.1%	-

Occupational characteristics		
Work experience with the same organization (*M*, *SD*, range)	2.7 years, 3.3, 4 months-11 years	4.3 years, 6.3, 3 months-15 years
Work hours/week (*M*, *SD*, range)	28.9, 10.2, 8-40	32.7, 7.3, 20-40
Shift:		
Morning	33.3%	62.5%
Afternoon	11.1%	12.5%
Night	22.2%	-
Weekend	22.2%	25%
Mixed	11.1%	-
Occupational status:		
Regular	88.9%	100%
Relief	11.1%	-
Position		
Front-line	88.9%	62.5%
Management	-	12.5%
Front-line and management	11.1%	-
Administrative	-	25%

* There are no significant differences between the intervention and control groups on demographic characteristics ($p > .05$).

Table 2

Participants' evaluation of the intervention

Questions	Mean	*SD*
I learned a lot from this workshop	3.59	0.93
I can use what I learned in this workshop in my work	4.56	0.88
I can use what I learned in this workshop in my personal life	4.44	0.88
This workshop has met my expectations	3.78	1.20
I would recommend this workshop to a colleague	3.67	1.41
I would attend this workshop even if I wasn't paid to	3.44	1.33
My stress levels have decreased as a result of this workshop	3.33	1.23
I am better able to handle the stress of my work because of this workshop	3.33	1.23
Where would you rate the workshop overall?	3.89	1.05

Note. Scale is 1-5.

Table 3

Unadjusted means and *F*-scores for intervention effects on physical, depressive and burnout symptoms.

Outcomes	Baseline [*M* (*SD*)]	Follow-up [*M* (*SD*)]	Group x Time (*F*)	Effect size
Physical symptoms			4.82*	.23
Intervention group	1.47 (0.50)	1.29 (0.23)		
Control group	1.84 (0.42)	2.06 (0.42)		
Depressive symptoms			19.98***	.56
Intervention group	1.93 (0.54)	1.56 (0.48)		
Control group	1.94 (0.68)	2.20 (0.53)		
Emotional exhaustion			9.81**	.38
Intervention group	2.23 (1.23)	1.43 (0.81)		
Control group	2.42 (0.99)	2.54 (1.10)		
Cynicism			0.63	.04
Intervention group	1.09 (0.86)	1.24 (0.63)		
Control group	1.10 (0.91)	1.50 (1.26)		
Professional efficacy			3.95†	.20
Intervention group	4.74 (0.84)	5.15 (0.89)		
Control group	4.75 (0.79)	4.53 (0.96)		

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$, † $p \leq .10$. Effect size was measured with partial η^2, a measure of the proportion of variance accounted for, where .01, .06 and .14 are small, medium, and large effects, respectively.

Table 4

Participants' perceptions of the organizational changes

Questions: Do any of the following Atira initiatives reduce your stress?	Mean	*SD*
Quarterly meetings for all Atira staff	3.00	1.16
Pay increases	3.33	0.71
Going from a 4-day workweek to a 9-day fortnight	3.29	1.25
Paid trainings	3.56	0.73
Policies encouraging you to take your breaks (including lunch) and leave work on time	3.50	1.07
Extended health benefits	4.00	0.00
Debriefing sessions for your program	3.75	0.43
Physical improvements to the shelters and work spaces	3.67	0.50

Note. Scale is 1-4.

Appendix 2: Description of MBSR weekly sessions

Each week the MBSR training focused on the following elements:

Week 1: What mindfulness is and isn't. Group guidelines. Introductions including hopes and concerns. Experiential mindfulness meditation while eating a raisin. Half hour body scan meditation; debrief and assign home practice for the week.

Week 2: Begin with a body scan meditation, debrief it as well as practice during the week. Discuss practice of daily mindful activity, mindful eating and perception exercises. Discussion of influence of perception regarding one's experience. Meditation on the breath.

Week 3: Body scan. Review daily record of pleasant events. Looking closely at how we respond to pleasant events in our life. Meditation on the breath and body, learning to work with pain.

Week 4: Mindful meditation on the breath, body and sound. Review daily record of unpleasant events, how we react/ respond to these, their impersonal nature, the role of choice. Mindful movement/gentle yoga, listening to our bodies, recognizing and accepting limits.

Week 5: Mindful meditation on breath, body, sound and thoughts. Overview of the stress reaction cycle, how it leads to break down; how to respond mindfully with awareness of the body, the full context, how to respond to thoughts with mindful awareness. Walking meditation, mindfulness in motion.

Week 6: Mindful meditation on breath, body, sound, thoughts and emotions. Review daily difficult communications calendar, nonviolent communication. Standing mindful

movement/gentle yoga. Loving kindness meditation, being gentle and compassionate with self and others.

Week 7: Meditation on choiceless awareness, attending to all phenomena. Tai chi and gentle yoga. Video on MBSR with participants sharing results of their practice and depiction of changes in the brain and anti-bodies, post MBSR.

Week 8: Coming full circle, body scan, gentle yoga, loving kindness meditation. Where to go from here? Continuing the practice. Suggested reading. Closing circle.

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