# Chapter 18
# Effects of a Stress Management Intervention Program on Self-Perceived Depression, Anxiety, and Stress Among Hotel Employees: A Quasi-experimental Study

**Cindy Biding and Rusli Bin Nordin**

## 18.1 Introduction

Stress and work-related stress have increasingly become a major concern for many organisations. This is because stress, whether or not it is work-related, not only affects performance and productivity but can lead to mental health problems such as depression and anxiety.

Many studies have acknowledged that increased levels of stress and its negative emotional responses can lead to injuries, poor health including mental health & chronic illnesses, as well as poor quality of life (Klainin 2009; Umanodan et al. 2009; Leung et al. 2011; Downey et al. 2012). Similarly, stress can have significant negative effects on performance, productivity, and job satisfaction as a result of low motivation, absenteeism, and burnt out.

Although stress cannot be eliminated, there are ways of handling stress, and people can learn to manage stress. The popularity of worksite stress management programs has grown significantly abroad and in the US (Richardson and Rothstein 2008). Stress management intervention programs (SMIP) that aim to reduce work-related stress or assist individuals to minimize the negative outcomes of exposure to stressors may include deep breathing and relaxation techniques, meditation, exercise, yoga-based intervention, positive psychology interventions, and Cognitive Behavioral Training (CBT) like time management, goal setting, changing dysfunctional thought patterns and mindfulness.

C. Biding (✉)
Jeffrey Cheah School of Medicine and Health Sciences, Clinical School Johor Bahru, Monash University Malaysia, No. 8, Jalan Masjid Abu Bakar, 80100 Johor Bahru, Johor, Malaysia
e-mail: cindy.biding.ahin@monash.edu

R.B. Nordin
Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, No. 8, Jalan Masjid Abu Bakar, 80100 Johor Bahru, Johor, Malaysia
e-mail: rusli.nordin@monash.edu

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The most common stress management intervention programs are based on CBT principles and procedures and seek to impart generalized coping skills to working populations (Bond and Flaxman 2010). Literature on worksite stress management training has provided much support for the efficacy of CBT based intervention (Richardson and Rothstein 2008).

CBT are typically highly structured, time limited and skills based, and these intervention characteristics naturally lend themselves to group training programs outside the traditional clinical context. Hence, it is not surprising that CBT, above other therapeutic approaches, has had such a prominent influence on worksite stress management training. Lazarus and Folkman (1984) described CBT as "highly compatible" with their theory of stress and coping which continue to underpin stress management training research and practice (De Vente et al. 2008).

Interventions may be classified as primary, secondary or tertiary. Primary interventions attempt to alter the sources of stress at work. In contrast, secondary interventions attempt to reduce the severity of stress symptoms before they lead to serious health problems (Murphy and Sauter 2003). Tertiary interventions such as employee assistance programs are designed to treat employees' health conditions via free and confidential access to qualified mental health professionals (Hewitt 2011).

In this study, we employed a secondary intervention approach aimed at the individual involving instruction in techniques to manage and cope with stress.

While there is a need to provide intervention programs in workplaces to alleviate distress among workers, it is imperative to examine the outcome of such programs and the strategies involved in the intervention program. The evaluation of the intervention program has the potential to pave the way for recommendation of strategies that work before they can be practiced in workplaces.

Studies in this area have been carried out on employees in the health care industries, among teachers, and in factory workers but there have been no studies carried out in this area for employees in the hotel industry particularly in Malaysia. Therefore, this study aims to evaluate the outcome of a SMIP among hotel employees. Specifically, this study aims to investigate the outcome of the intervention on stress, anxiety, and depression levels in hotel employees. We expected that as a result of the intervention there would be a significant reduction of stress, anxiety and depression levels over time in the intervention compared to the control group.

## 18.2 Psychosocial Factors at Work in the Asia Pacific Region

Work is the main source of stress for workers in the Asia Pacific according to the latest research by Regus (2012). Workers in the Asia Pacific are stressed and more than 40 % of the workers are bothered by work stress. Leave (paid time off) is underutilized, especially in fast growing economies including China, India, Indonesia, Malaysia, Philippines, where more than half of the workforce reported using fewer leave (paid time off) than in the past (Brown 2013).

Employers recognize that work-related stress is a growing problem that is affecting not only the health and well-being of employees but the productivity of organisations (HRM 2013). Organisations in different countries deal with the problem differently. Providing flexibility and work-life balance initiatives are two of the many approaches organisations can take with the aim of not only reducing employee stress but with the proposition that the organisation cares. Other organisations offer opportunities for employees to attend work-life balance seminars and participate in 'healthy' activities.

One of the challenges faced by organisations striving to achieve the highest levels of performance is the decline in global employee engagement levels. In particular the average employee engagement score for Asia Pacific dropped to 56 % in 2010 from 60 % in 2009 which is the largest decline in the last 15 years (Hewitt 2011). The decline in employee engagement could stem from the pressure of organisational change, work load, and less time-off from work among other things. These factors bring about stress and employers need to look at how to sustain employee engagement through some form of intervention at the workplace.

As an emerging economy in South-East Asia, Malaysian employees reported that they experience stress provoked by factors such as workload, organisational politics and lack of autonomy in the workplace (Aziah et al. 2004; Edimansyah et al. 2008). In dealing with stress, Malaysian employees focus on individual strategies rather than organisational interventions. Some of these strategies include talking to their manager or supervisor, slowing down, religious activities, and talking to friends (Idris et al. 2010).

## 18.3 Theoretical Framework for the Intervention

The theoretical framework for the intervention is primarily based on Lazarus' Theory of Stress and Bandura's Social Cognitive Learning Theory. Lazarus' Theory of Stress which defines psychological stress as a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. The SMIP consisted of three sessions of deep breathing and progressive muscular relaxation exercises, cognitive behavioral training covering communication and interpersonal skills, emotional intelligence, goal setting and changing dysfunctional thinking patterns. These approaches model the Lazarus' Stress Theory in managing stress in four steps: (a) define the problem, (b) generate alternative solutions, (c) learn new skills to deal with stressors, and (d) reappraise and find new standards of behavior. This study identified the problem as moderate to high levels of distress among hotel employees. The SMIP generated solutions which enabled employees to generate solutions and learn new skills to deal with the stressors as well as reappraise and find new standards of behavior. These steps were covered in the three sessions of intervention with the experimental group.

Bandura's Social Cognitive Learning Theory posits that individuals possess self-reflective and self-reactive capabilities that enable them to exercise some control

over their thoughts, feelings, motivations, and actions. The concept of self-efficacy is central to social cognitive theory as well as critical for individuals to engage in self-regulation. Self-efficacy is the idea that people decide how to behave based on their belief in their capabilities of accomplishment. Self-efficacy helps to determine our life choices, motivates and helps deal with failures and setbacks in life (Mahto 2006). The SMIP consisted of three sessions of (a) deep breathing and progressive muscular relaxation exercises; (b) Cognitive Behavioral Training (CBT) covering communication & interpersonal skills, emotional intelligence at work, goal setting and changing dysfunctional thought patterns. These intervention strategies address the presenting problems of distress by helping participants to be aware of their own potentials and capabilities as well as their flaws and acknowledge that they can learn to improve those areas of weaknesses. In the intervention sessions, participants also learn to understand their distress, correct dysfunctional thought patterns that can profoundly affect their psychosocial well-being as well as self-regulation of behavior and habits. When participants can correct their dysfunctional thought patterns, they then learn new positive behavior that can help to improve their interaction at work and their professional growth and development in the organisation. Thus the social cognitive approach works by helping people to stay psychologically healthy through the SMIP which aims at reducing distress levels.

The most common approach to coping with stress is cognitive appraisal where, firstly, the person evaluates the extent of the threat posed by the stressor, and secondly the person judges his or her capacity to cope with the stress. In the social cognitive concept, coping styles have been broadly categorized as either problem-focused or emotion-focused. The former involves directly addressing and minimizing the effect of stressor while the latter addresses the emotional symptoms associated with the stress experience (Shimazu and Schaufeli 2007). In this study we looked directly into addressing and minimizing the effect of stressors.

## 18.4 Methods

### *18.4.1 Study Design*

A quasi-experimental study was conducted among hotel employees in two hotels in Kuching in the state of Sarawak, Malaysia.

### *18.4.2 Sampling*

Two hotels were selected based on random sampling. One hotel was a resort (Hotel A) and the other a 4 star hotel in the city (Hotel B). Permission was sought and granted from the General Manager of Hotel A and the Human Resources Manager from Hotel B, to carry out the study on SMIP.

A validated short form version of DASS21 in Malay and English was given out to the total population of Hotel A and Hotel B for the purpose of screening. The DASS21 was administered and staffs that scored from normal to mild on the stress, anxiety, and depression ratings were excluded, while those who scored from moderate to extremely severe on the stress, anxiety and depression ratings were included in the study.

The experimental group consisted of 34 male and 34 female staff ranging from the age of 20–58 years old. Out of the 34 male, nine (9) were from the age range of 20–30 years, 15 were from the age range of 31–40 years, seven (7) were from the age range of 41–50 years and three (3) were aged 51 years and above. Fifteen of the male staff was from the managerial and supervisory levels while 19 of them were from the operations and support levels. Fifteen of the females were from the age range of 20–30 years, eleven (11) were from the age range of 31–40 years while eight (8) were from the age range of 41–50 years. Thirteen of the female staff was from the managerial and supervisory levels while 21 were from the operations and support levels.

The control group was made up of 29 male and 29 female staff ranging from the age of 20–50 years and above. Out of the 29 male, twelve (12) were from the age range of 20–30 years, six (6) were from the age range of 31–40 years, eight (8) were from the age range of 41–50 years while one (1) of them was above 50 years. Thirteen (13) of the male staff were from the managerial and supervisory levels while sixteen (16) were from the operations and support levels. Ten (10) of the female were from the age range of 20–30 years, nine (9) were from the age range of 31–40 years, seven (7) were aged between 41 and 50 years and three (3) were 50 years and above. Fourteen (14) of the female staff were from the managerial and supervisory levels and fifteen (15) were from the operations and support levels. There was no significant difference between the age groups.

There were similarities in the nature of the job function and work environment in both the experimental and control groups.

### *18.4.3 Sample Size*

A total of 126 ($N = 126$) employees from Hotel A ($n = 68$) and Hotel B ($n = 58$) were included in the study after screening and having fulfilled the inclusion and exclusion criteria. Hotel A participants were assigned as the experimental or intervention group, and Hotel B participants were assigned as the control group.

### *18.4.4 Research Instruments*

A validated short form version of the Depression, Anxiety, Stress Scales (DASS21) containing 21 test items was used. The scale is comprised of three constructs (stress,

anxiety and depression), with each construct containing seven test items. The DASS21 questionnaire was available in Malay and English version. Participants completed the questionnaire at Time 1, 2 weeks later at Time 2, and again at follow up, 2 weeks later at Time 3.

### *18.4.5 Stress Management Intervention Program*

A Stress Management Intervention Program (SMIP) that was implemented included the following: (a) deep breathing and progressive muscular relaxation exercises, and (b) Cognitive Behavioral Training covering communication and interpersonal skills, emotional intelligence at work, goal setting and changing dysfunctional thought patterns.

The experimental group was given three sessions of SMIP while the control group was given a once-off 2 h seminar session on awareness of stress, recognizing stress and ways of coping with stress at the start of the study duration.

### *18.4.6 Session 1*

Deep breathing and progressive muscular relaxation exercise. This session was conducted for 15 min by the researcher who is a registered counselor and a trainer. This was followed by a one and three quarter hour session on communication and interpersonal skills. Participants were introduced to effective communication and interpersonal skills that would improve working relationships as well as social interactions. Participants were actively involved in role play activities that encourage a two-way face-to-face communication. Participants learn how to communicate messages and information clearly so as to be understood. This is to reduce distress caused by lack of good communication and interpersonal skills.

### *18.4.7 Session 2*

Deep breathing and progressive muscle relaxation exercise was carried out for 15 min, followed by a one and three quarter hour session on emotional intelligence at work. In this session, participants were introduced to the five elements of emotional intelligence and participated in two activities bringing out awareness of self and others, understanding how emotions affect others, showing empathy and acquiring social skills necessary for harmonious living with oneself and others, thus reducing distress.

### *18.4.8 Session 3*

This is a 2 h session on CBT (goal setting and changing dysfunctional thought patterns). This session consists of a mix of power point presentations and role play as well as written exercises to learn goal setting and changing dysfunctional/ negative thought patterns to positive thought patterns.

### *18.4.9 Statistical Analysis*

Data entry and analysis was done using IBM SPSS Software version 20 at the Monash University Malaysia, Clinical School Johor Bahru (CSJB). The mean and standard deviations (SD) were calculated for the continuous variables, and frequencies and percentages for categorical variables. Effects of the SMIP were examined using the mixed within-between subjects ANOVA analysis where the time-group interaction effects (within subject-between subject) were calculated.

## 18.5 Results

A mixed between-within subjects ANOVA was conducted to assess the impact of two different interventions (SMIP, Seminar Session) on participants' scores on the DASS21 questionnaire, across three time periods (pre-intervention, post intervention 1 and post-intervention 2). There were significant interactions between intervention program type and time: (a) Stress (Wilks Lambda = 0.946, $F$ (2, 123) = 3.534, p = 0.032, partial eta squared = 0.054) (Fig. 18.1); (b) Anxiety (Wilks Lambda = 0.874, F (2, 12) = 5.93, p = 0.000, partial eta squared = 0.046) (Fig. 18.2), and (c) Depression (Wilks Lambda = 0.897, F (2, 123) = 7.038, p = 0.001, partial eta squared = 0.103) (Fig. 18.3).

There were substantial main effects for time for the intervention group but not for the control group: (a) Stress (Wilks Lambda = 0.892, F (2, 123) = 7.457, p = 0.001, partial eta squared = 0.108); (b) Anxiety (Wilks Lambda = 0.811, F (2, 123) = 14.329, p = 0.001, partial eta squared = 0.189); and (c) Depression (Wilks Lambda = 0.890, F (2, 123) = 7.580, p = 0.001, partial eta squared = 0.110). In the experimental group, the DASS Stress mean score was reduced from 17.12 at pre-test to 13.94 at post 1 and further reduced to 11.94 at post 2. The mean score for DASS Anxiety was reduced from 13.59 at pre-test to 12.35 at post 1, and 7.65 at post 2. The DASS Depression mean score was reduced from12.15 at pre-test to 9.91 at post 1, and 6.57 at post 2. There were no significant reduction in stress, anxiety and depression scores in the control group at post 1 and 2 (Tables 18.1, 18.2 and 18.3).

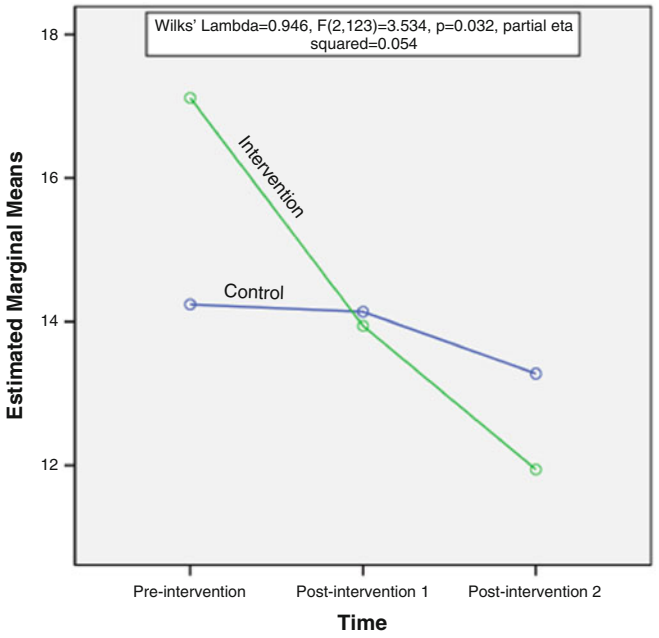


**Fig. 18.1** Mean scores for stress across three time periods by group: time-group interaction

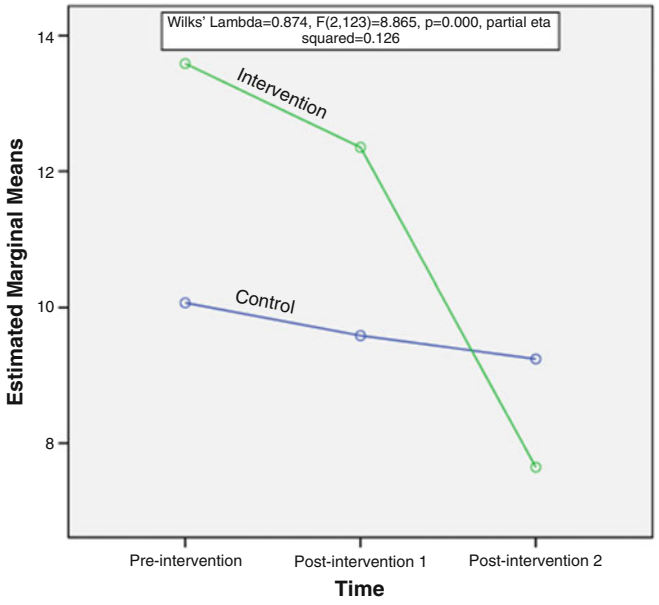


**Fig. 18.2** Mean scores for anxiety across three time periods by group: time-group interaction

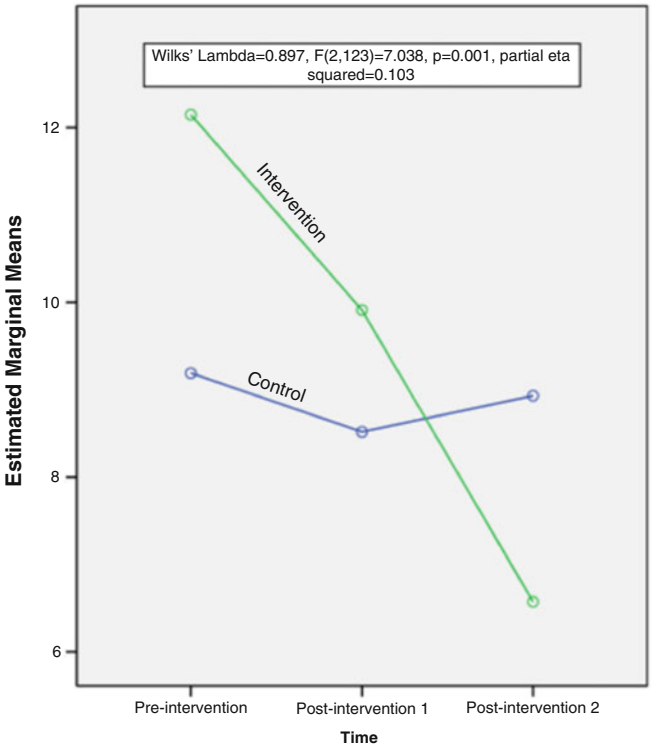


**Fig. 18.3** Mean scores for depression across three time periods by group: time-group interaction

**Table 18.1** Stress scores between control and experimental group: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | *F* | (*df*) | *Wilks' Lambda* | *Partial eta squared* | *p* |
|---|---|---|---|---|---|---|
| **Within-subject effect:** | | | | | | |
| *Control (n = 58)* | | | | | | |
| Pre | 14.24 (5.73) | 0.636 | (2, 56) | 0.978 | 0.022 | 0.533 |
| Post 1 | 14.14 (5.12) | | | | | |
| Post 2 | 13.28 (4.52) | | | | | |
| *Experimental (n = 68)* | | | | | | |
| Pre | 17.12 (7.82) | 9.440 | (2, 66) | 0.778 | 0.222 | 0.000 |
| Post 1 | 13.94 (6.57) | | | | | |
| Post 2 | 11.94 (6.01) | | | | | |
| **Between-subject effect:** | | 0.475 | (1, 124) | | 0.004 | 0.492 |

**Table 18.2** Anxiety scores between control and experimental groups: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | *F* | *df* | *Wilks' Lambda* | *Partial eta squared* | *p* |
|---|---|---|---|---|---|---|
| **Within-subject effect:** | | | | | | |
| *Control* (n = 58) | | | | | | |
| Pre | 10.07 (6.12) | 0.28 | (2, 56) | 0.990 | 0.010 | 0.754 |
| Post 1 | 9.59 (5.75) | | | | | |
| Post 2 | 9.24 (5.44) | | | | | |
| *Experimental* (n = 68) | | | | | | |
| Pre | 13.59 (7.13) | 29.54 | (2, 66) | 0.528 | 0.472 | 0.000 |
| Post 1 | 12.35 (6.54) | | | | | |
| Post 2 | 7.65 (4.92) | | | | | |
| **Between-subject effect:** | | 5.934 | (1,124) | | 0.046 | 0.016 |

**Table 18.3** Depression scores between control and experimental groups: one-way repeated measure ANOVA: within-subject and between-subject effects

| Time | Mean (SD) | *F* | *df* | *Wilks' Lambda* | *Partial eta squared* | *p* |
|---|---|---|---|---|---|---|
| **Within-subject effect:** | | | | | | |
| *Control* (n = 58) | | | | | | |
| Pre | 9.19 (5.73) | 0.236 | (2, 56) | 0.008 | 0.008 | 0.790 |
| Post 1 | 8.52 (4.51) | | | | | |
| Post 2 | 8.93 (5.67) | | | | | |
| *Experimental* (n = 68) | | | | | | |
| Pre | 12.15 (7.03) | 15.770 | (2, 66) | 0.677 | 0.323 | 0.000 |
| Post 1 | 9.91 (6.37) | | | | | |
| Post 2 | 6.57 (4.61) | | | | | |
| **Between-subject effect:** | | 1.250 | (1,124) | | 0.010 | 0.266 |

The main effects comparing the two types of intervention were significant for anxiety but not for stress and depression levels: (a) Stress [F (1, 124) = 0.475, p = 0.492, partial eta squared = 0.004]; (b) Anxiety [F (1, 124) = 5.934, p = 0.016, partial eta squared = 0.046]; and (c) Depression [F (1, 124) = 1.250, p = 0.266, partial eta squared = 0.010]. This suggests that there was no difference in the effectiveness of the two types of intervention with respect to reducing stress and depression levels but the SMIP was effective in the reduction of anxiety levels among hotel employees.

## 18.6 Discussion

This study examined the effectiveness of a SMIP on depression, anxiety, and stress levels in hotel workers using the validated short-form version of the Depression Anxiety Stress Scales (DASS-21). Results indicated that the SMIP was effective in

reducing anxiety levels, but not stress and depression levels, among hotel employees.

An earlier study on secondary school teachers in Hong Kong by Leung et al. (2011) using a brief three session CBT stress management program over 4 weeks showed a significantly lower levels of role stress, personal strain and overall work-related stress. The intervention groups also had significantly higher stress management behaviors and less general stress and dysfunctional thoughts than the control groups (all $p \leq 0.05$). The brief program was efficacious in reducing work-related stress of secondary teachers. Teachers experienced less work-related stress after the program, and they reported reduced dysfunctional thoughts and enhanced stress management behaviors.

Similar studies on stress management intervention, including the mind-body concept involving yoga based and mindfulness based intervention, aimed at reducing stress in the workplace, showed significantly greater improvement on perceived stress and sleep difficulties for participants. Both mindfulness and yoga based programs may provide viable and effective interventions to target high stress levels, sleep quality and autonomic balance in employees (Bobinet et al. 2012). Yoga-based interventions have had positive effects on perceived stress and quality of life (Gard et al. 2012).

In determining the effectiveness of stress management intervention in occupational settings, Richardson and Rothstein (2008) revealed that CBT considerably produced larger effects on psychological outcome variable (stress, anxiety, general mental health, and job satisfaction) than other type of interventions. This finding is in accord with other research that has shown CBT to be among the more effective methods for managing stress in other settings with other population including students (Stein et al. 2003).

It is interesting to note that CBT-based intervention was not effective in treating clinical levels of work-related stress as reported by De Vente et al. 2008 in a randomized controlled trial (RCT) of CBT-based stress management intervention on 82 patients on sickness leave with work-related stress.

We designed the SMIP based on Lazarus' Theory of Stress and Bandura's social cognitive learning theory. The social cognitive learning theory places a lot of responsibility on the individual in terms of how they are affected by the environment. The intervention strategies in our study involved instruction in techniques for managing stress. The three sessions required participants to learn effective communication skills, understanding their own emotions and that of others as well as how these emotions affect themselves and others. They learn to set goals so that they can see a direction and the way forward for their personal and professional growth. They also learn to recognize dysfunctional thought patterns that get in the way of their psychosocial well-being and detract them from being productive. They then learn to replace dysfunctional thought patterns with positive thoughts.

Our study combined CBT with 15 min of deep breathing and progressive muscle relaxation exercise as a starter for three sessions of intervention. We did not find out what worked better for the participants or if the deep breathing and

progressive muscle exercise did any good at all. It is suggested that future studies investigate which component of the intervention is responsible for the effect, or whether the intervention works better with a combination of components.

The control group received a once-off 2 h seminar session on awareness of stress, recognizing stress and ways of coping with stress at the start of the study duration. The results of the study showed a slightly reduced level of distress in DASSA-Depression, DASS-Anxiety and DASS-Stress in the control group. This could mean that even a once-off 2 h seminar session can be beneficial in helping workers recognize stress and learning a few ways of coping with it.

This research has some important managerial and human resources implications in terms of looking into the psychosocial well-being of employees by providing psychosocial wellness program which includes stress management intervention. The provision of employee assistance program (EAP) for individual employees with work related stress that detract them from being productive can also have potential benefit for employees concerned.

## 18.7 Challenges and Future Directions

This study had several limitations. Firstly, the distress levels of the intervention and control groups before intervention (pre-test score) were not on similar level. The pre-test score showed the control group had a lower level of distress in comparison to the intervention group. For example, the pre-test mean score for DASS-Depression was 12.15 for the experimental group while the control group pre-test mean score was 9.19. The pre-test mean score for DASS-Anxiety was 13.59 for the experimental group while the pre-test mean score for the control group was 10.07. Similarly, the DASS-Stress pre-test mean score was at 17.12 for the experimental group while the mean score was at 14.24 for the control group. The control group's lower level of distress could be attributed to the fact that the hotel is in the city and has ready clients from the public sector which makes it less worrying or stressful for the staff as they know that their business is quite secure. It can be inferred that the experimental group distress level is higher as they are a resort hotel and they need to compete for clients. In their quest for competitive advantage they need to work harder to earn customers' confidence. This could attribute to the higher distress levels.

Secondly, the two hotels were from different settings in that one is a resort and the other is a city hotel. Future studies could consider implementing the intervention using both intervention and control groups from the same business type, to account for organisational effects. For instance, in the hotel industry, both groups should be either a resort or a city hotel. Using intervention and control groups from the same organisation is a possibility but it raises the possibility of contamination of results whereby improving health of some members (in the intervention group) could affect the well-being of members of the control group.

Finally, future studies may be extended to include more sessions. This would mean the study can be undertaken over a period of 6–8 months in order to produce a better outcome.

The challenge for research in the area of psychosocial factors at work in the Asia Pacific, particularly in Malaysia, is to work collaboratively with the management in organisations. Although many organisations realize that employees' absenteeism and medical leave is costly, the management is still not ready to see and understand the long term benefits of providing psychosocial wellness programs that includes stress management intervention for employees. In Malaysia, it is necessary for the Human Resources Ministry to make it mandatory for employers to provide some form of basic but essential assistance like counseling services within their employee assistance program (EAP). Sometimes, employees who face difficulties at their workplace do not know how to address their problems. Another challenge for employees who want to seek assistance is the fear of uncertainty about confidentiality and the consequences or implications on their employee record.

The challenge is to address the problem of increased levels of stress. However, the management in organisations must first see the importance of its human resources to the organisations. Then they need to find out ways to demonstrate that they value its human resources by providing some work-life balance to their employees, clarity of performance management, as well as a reward and compensation scheme that works for the employees. Finally, providing psychosocial wellness program that includes stress management intervention would go a long way towards sustaining employees' psychosocial well-being.

The most effective way to address psychosocial issues at work in Malaysia is for the Human Resources Ministry to mandate the provision of psychosocial wellness programs as part of the Occupational Safety & Health Act 1994.

## 18.8 Conclusion

Stress is always present in workplaces although the stress may not necessarily be from the workplace itself. Stress can affect workers' performance and productivity as well as their work and social interactions. While workers are faced with stress from home, social interaction or the workplace, it is vital to for employers to provide some assistance to minimize their stress levels and help them to cope before the situation becomes more severe. This study examined the effectiveness of the SMIP on self-perceived depression, anxiety and stress levels among hotel employees using the short form version of the Depression Anxiety Stress Scales (DASS-21). Results indicated that SMIP is effective in reducing anxiety levels, but not stress and depression levels, among hotel workers. This evidence suggests that management should consider the adoption of an intervention like SMIP as part of employee assistance program (EAP) to hotel and other employees to sustain their psychosocial well-being and productivity.

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