



The Effect of Mindfulness-Based Intervention on Work Stress of Nurses who Work in an Emergency Department in a Hospital in Indonesia

Dhevy Puswiartika^{1*}; Bau Ratu²

Universitas Tadulako

ARTICLE INFO

Article history:

Received December 04, 2019

Accepted February 12, 2020

Published June 05, 2020

Keyword:

Nursing Personnel
Stress
Mindfulness
Indonesia

ABSTRACT

Being a nurse is a stressful profession due to the daily heavy and demanding work. Mindfulness can be effective to teach nursing personnel how to cope with such stress. The intervention “Don’t Worry, Be Mindful” was developed by the researchers for the Indonesian situation based on the concept of Mindfulness-Based Stress Reduction (MBSR). We explored its effect in an exploratory pre-post design with 15 experienced members from the nursing personnel at the Emergency Department of a peripheral hospital in Pandeglang, Banten, Indonesia. The results showed that after the “Don’t Worry, Be Mindful” intervention the participant’s stress level was significantly reduced. Each of the nurses showed less stress at the post-test than at the pretest. This outcome indicated that mindfulness-based intervention is a promising tool to reduce stress in nursing personnel in a peripheral hospital in the less developed part of South-East country like Indonesia.

This open access article is under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



Kata kunci:

Perawat
Stres
Mindfulness

*) corresponding author

Department of Educational Science, Faculty of
Teacher Training and Education, Universitas
Tadulako
Jl. Soekarno-Hatta KM.9, Tondo, Mantikulore,
Palu, Sulawesi Tengah 94148

Email: dhevyprodibk@gmail.com

DOI: <https://doi.org/10.30604/jika.v5i1.728>

ABSTRAK

Profesi perawat merupakan profesi yang penuh tekanan karena tuntutan pekerjaan sehari-hari yang berat. Mindfulness terbukti efektif untuk membantu perawat dalam mengatasi stres kerja. Intervensi “Don’t Worry, Be Mindful” dikembangkan oleh peneliti untuk konteks Indonesia berdasarkan konsep Mindfulness Based Stress Reduction (MBSR). Peneliti melakukan eksplorasi terhadap efek intervensi mindfulness terhadap stres kerja perawat dengan menggunakan desain pre-post test dengan partisipan 15 orang perawat pada Unit Gawat Darurat (UGD) rumah sakit di Pandeglang, Banten, Indonesia. Hasil penelitian ini menunjukkan bahwa setelah pemberian intervensi “Don’t Worry, Be Mindful” diketahui bahwa tingkat stres partisipan berkurang secara signifikan. Setiap perawat menunjukkan tingkat stres yang menurun pada saat post-test, apabila dibandingkan dengan tingkat stres perawat saat pretest. Hasil ini menunjukkan bahwa intervensi berbasis mindfulness merupakan salah satu teknik yang efektif untuk mengurangi stres pada perawat di rumah sakit di Indonesia.

INTRODUCTION

Nursing has been universally recognized as a stressful job, which is predicted to increase in coming years, a trend that cannot be ignored given the profound effect of workplace stress on the health and safety of nurses and the patients

under their care (Zeller&Levin, 2013). Nurses face many demands in their daily work, such as having to handle additional tasks resulting in extended working hours, having to give intense emotional support to patients who suffer, and

having to deal daily with pain, loss, and traumatic illness events of the patients, while they usually have little power and control in a physician-controlled work environments (McCloskey & Taggart, 2010). All these demands can lead to strong feelings of stress.

Stress is defined as a negative internal bodily state, where an individual experiences feelings of uneasiness, along with a perception of having an inadequate ability to handle an experience or situation (Parker & DeCotiis, 1983). Cox (1993) described stress as an individual perception that cannot cope with his or her work and life demands. The magnitude of stress (i.e. low, moderate, or high) has severe consequences on work performance (Leung et al., 2008). A low magnitude of stress impairs individual functioning due to a lack of interest or ability to motivate stimulating work performance. Instead, the stress of a moderate magnitude is neither too little nor too much stress and can actually contribute toward optimal work performance. But an excessive or a high magnitude of stress, without adequate support or resources, can reduce individual ability to function at an optimal performance level (Leung et al., 2008). However, when stress is moderate in nature and coupled with the knowledge and resources needed, can lead to optimal work performance.

Stress might have negative effects on nurses' physical and mental health, including effects on cardiovascular and gastrointestinal systems, and it can lead to muscle tension, headaches, sleep disturbances, irritability, anxiety, and depression (Zeller&Levin, 2013). It can also lead to burnout and compassion fatigue (Wentzel & Brysiewicz, 2014), in which case it can disrupt with nurses' ability to focus attentively, think clearly, and provide optimal patient care (Shackman, et.al, 2011). Inattentiveness may lead to medication and other treatment errors (Zeller&Levin, 2013).

Previously, the first author (DP) had conducted a number of interviews with several patients and their families in Emergency Department with a 24-hour service of a peripheral hospital in Pandeglang, Banten, Indonesia. The nature of services at the Emergency Department is immediate and fast (Sujudi, 1999). There could be a tension between these immediate and fast services, which could interfere with the proper or correct attitude of the nurse and could make nurses of the Emergency Department prone to work stress. The nurses were often found to be angry, rude, impatient and negligent when providing services to patients and their families. Interview with the nurses indicated the presence of work stress, with symptoms like often feeling dizzy, tired, nausea, stomachache, unmotivated, and feeling compassion fatigue due to having to always be friendly with patients and their family.

Stress-management interventions teach stress management strategies in order to provide people with optimal stress responses in coping with workplace stressors (Sand, 2015). One of the emerging methods of stress management is mindfulness. Bhar (2018) stated that mind precedes all things, therefore mindfulness can be considered as being aware of one's own thoughts. Mindfulness is present-centered attention-awareness in everyday experiences where one is aware of and attending to the present moment while accepting the situation for what it is (Brown & Ryan, 2003). How mindful a person is will vary across individuals, as an awareness of and attention to the present moment are thought to be inherent human abilities (Brown & Ryan, 2003).

Mindfulness has been found to have a positive impact on various work-related outcomes. These include stress reduction (Shapiro, et.al, 2005) or recovery, strengthen resilience, wellbeing (Dane, 2011; Glomb et al., 2011), and improved job performance (Reb, Narayanan, & Ho, 2015).

Mindfulness has been proposed as a capability that people can learn and develop in order to enhance their relationship with work experiences (Kabat-Zinn, 1994; Brown & Ryan, 2003) by mindfulness-based intervention as a self-regulation approach to stress reduction and emotional management (Bishop, 2002). Those who received mindfulness-based intervention appeared to be better able to recognize thoughts, emotions, and physical sensations as they arise under situations of impending stress (Smith, 2014), allowing them to respond to stressful situations in healthier and more adaptive ways. Mindfulness-based intervention may not only assist individuals in dealing with stressful life events while they are occurring but also prepare those entering highly stressful situations to better regulate emotion (Kabat-Zinn, 1994).

Mindfulness-based intervention has been offered to health professionals and used by practicing clinicians to promote self-awareness and self-care. Cohen-Katz, et al. (2005) reported that the introduction of Mindfulness-Based Stress Reduction (MBSR) program to nurses has improved their ability to think clearly and to remain focused and calm in stressful situations.

Another study revealed that mindfulness-based intervention has reduced symptoms of burnout among practicing nurses (Cohen-Katz, et al., 2005). Also, nurses who practice mindfulness reported that they were better able to cope with negative emotions, more attentive and aware of thoughts and feelings during stressful life events, and better able to respond to their own needs and those of their patients (Davies, 2008). Furthermore, Cunningham, et.al. (2013) reported that The Mindfulness & Medical Review program aspires to support emergency department staff in a positive setting primarily to improve work and life balance and employee satisfaction and secondly to improve patient satisfaction scores as a result of a more content workforce. Valley & Stallones (2018) used the Health Belief Model (HBM), a theoretical framework used by health promotion practitioners to design and implement health behavior change interventions. Results showed that the Health Belief Model (HBM) constructs, including internal cues to action, perceived benefits and barriers, and self-efficacy, helped portray the participants' experiences and challenges in adopting and adhering to the mindfulness practices taught in the Mindfulness-Based Stress Reduction (MBSR) course.

These investigations have been carried out in the West. In Eastern countries, this is still rarely applied, especially not in Indonesia, although the mindfulness-based intervention in Indonesia is already implemented to reduce the stress of preschool teachers (Maharani, 2016), diabetes mellitus' patients (Wijaya, 2014), and cancer patients (Firstiyanti, 2016). In order to determine the merits of mindfulness in the nursing context and before it will be subjected to a controlled trial, we explored the possible effects of "Don't Worry Be Mindful Intervention" to reduce the stress of nurses of an emergency service in a peripheral hospital of Indonesia.

Research Question

Is there a reduction in stress after a mindfulness intervention in nursing personnel, working in an emergency department of a peripheral hospital in Indonesia?

Hypothesis

Mindfulness intervention "Don't Worry, Be Mindful" can reduce the stress of nursing personnel who work in an emergency department of a peripheral hospital in Indonesia.

METHOD

Design

The research design was an exploratory pre-post design in order to see if the mindfulness training is promising enough to be subjected to a randomized controlled trial.

Participants

We used convenience sampling and included 15 nurses, 3 male and 12 female nurses. They had to have been in the emergency department at least one year.

Measurement

The current perceived stress was assessed by a 30-item stress scale which was previously developed by the authors based on stress indicators by Hardjana (1994). The stress scale consists of the following four aspects: physical (n=7 items, e.g. I feel headaches for no apparent reason), cognitive (n=7 items, e.g. I feel mentally exhausted), emotional (n=8 items, e.g. I feel nervous), and behavior (n=8 items, e.g. I can't manage myself to achieve goals at work). All items are rated on a two-point scale ranging from point 0 (No) to point 1 (Yes). Then the score of the Cronbach's α of this stress scale was .88, which indicated a good internal consistency. The item-total correlations of this stress scale ranged from .37-.70, which indicates the items had a good correlation with the total score.

Intervention

The "Don't Worry Be Mindful Intervention" is based on the concept 'Mindfulness-Based Stress Reduction (Kabat-Zinn, 1994). Our focus was to increase the individual skill of the nurses to become aware of physical and psychological reactions to the present moment and to decrease stress. The intervention consisted of two sessions in two meetings of 60-

120 minutes per session. Five dimensions of mindfulness were trained (i.e: observing or "noticing or attending to internal and external experiences", describing or "labeling internal experiences with words", acting with awareness or "attending to one's activities of the moment", nonreactivity or "allowing thoughts and feelings to come and go, without getting caught up in or carried away by them", and nonjudging or "taking a nonevaluative stance toward thoughts and feelings" (Bohlmeijer et al. 2011); by psychoeducation with lecture method about stress management with mindfulness intervention and mindful practices (i.e: mindful breathing and muscle relaxation). The techniques could be done in the intervention sessions and independently by participants at home.

Procedure

First, the participants filled in the informed consent and stress scale for the pretest before the session 1 in day 1. Second, the intervention for session 1 dan session 2 in day 1 and day 2 took place. Finally, at the end of session 2 on day 2, a posttest was carried out to measure the level of work stress after the intervention, the closure, and the feedback from participants. The training elements across the two sessions were presented in table 1.

Data Analysis

The data was analyzed in descriptive statistics to describe the mean levels of stress. Differences between pretest and posttest in stress levels were analyzed nonparametrically with Wilcoxon Signed Rank Test because the sample was small and the data were not normally distributed. We used the Statistical Package for the Social Sciences (SPSS) version 21. Furthermore, the daily journals of subjects were analyzed with thematic analysis to evaluate the progress of the participants (Maguire & Delahunt, 2017).

Table 1. Training elements across the two sessions

Day 1	Day 2
Session 1: Psychoeducation about stress management with mindfulness intervention: observing and describing.	Session 1: Psychoeducation about stress management with mindfulness intervention: acting with awareness, nonreactivity, and nonjudging.
Session 2: Mindful practice: mindful breathing.	Session 2: Mindful practice: muscle relaxation

RESULTS OF STUDY

Demographic Characteristics

Participants were permanent employees, 12 women and 3 men, with the range of their work period between 1 and 10 years (the average of their work period was 4,7 years) and the range of their age between 23 and 31 years old (the average of their ages was 26,7 years old). Eleven participants had the undergraduate grade in nursing and four participants had graduated from Nursing Vocational Education.

Stress Level

The stress level of each of the participants had decreased on the posttest in comparison with the pretest. On total

average, there was a reduction from 24.07 (pretest) to 18.67 (posttest), i.e. 5.40 (22.44%). Overall, the stress level reduced from "Moderate" to "Low" in stress category. The female participants showed a reduction of the average stress level from 23.42 (pretest) to 17.83 (posttest); in other words, it reduced from "Moderate" to "Low" in stress category. The male participants showed also a reduction of the average stress level from 26.67 (pretest) to 22 (posttest). But the stress category still stayed at the "Moderate" level. Further, the Wilcoxon Signed Ranks Test also showed that the stress level of the nursing personnel was significantly lower in the posttest compared with the pretest ($z = -3.427, p = 0,001$). The comparison of the stress level of the nursing personnel was presented in figure 1.

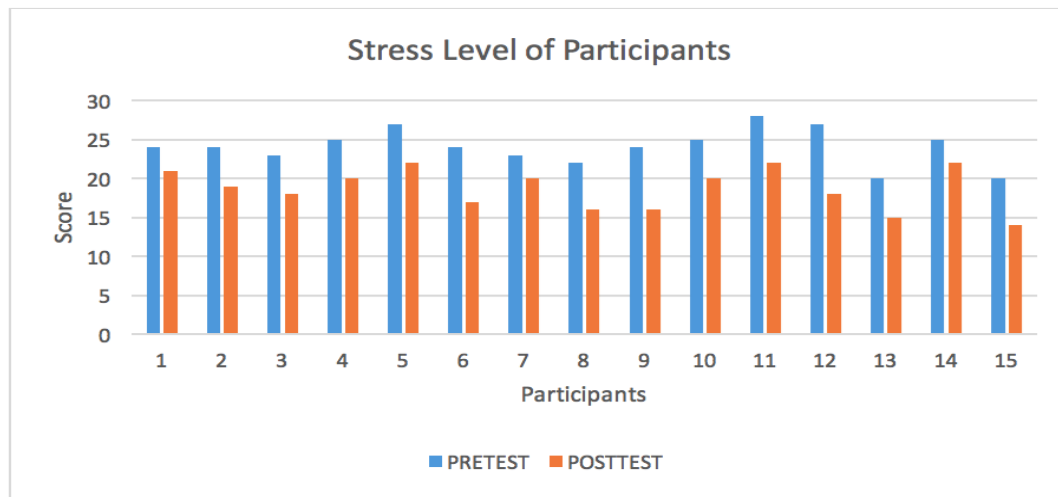


Figure 1. Stress Level

Daily Journals of The Mindfulness Practice

Eight participants reported that they practiced the technique of mindfulness in their daily life since the start of “Don’t worry, be mindful” intervention, according to their daily journals. They practiced mindful breathing for 2-3 times a day if they feel stress. As an illustration: one of the participants (subject 12) reported on her experience with mindful breathing: “On that time I was feeling impatient and tired when I was on a hectic duty. And then I take deep breaths and I feel a lot better. It could be a good thing to practice”.

DISCUSSION

In order to determine the merits of mindfulness in the nursing context and before it will be subjected to a controlled trial, we explored the possible effects of “Don’t Worry Be Mindful Intervention” to reduce the stress of nurses of an emergency service in a peripheral hospital of Indonesia. Our findings indicated that the “Don’t Worry, Be Mindful” intervention is promising enough to start a trial because it reduced the stress level of nursing personnel.

Overall, the stress level diminished from “Moderate” to “Low”. This result shows that gender did not influence the stress level absolutely. All participants showed a diminishment of their stress level and reported that practicing mindfulness had given them a new alternative to respond to stressors.

The participants related mindfulness to taking deep breaths and to how this can be helpful for them as a nurse. Taking deep breaths can help someone to focus in order to be calm down and more mindful (Puswiartika, et.al, 2018). This is in line with Brown & Ryan (2003) who stated that the success of using mindfulness technique is related to daily practice. Many simple activities of mindfulness technique can be done in everyday life of the nurses without disturbing their daily work, such as mindful meditation (mindful breathing, mindful eating, mindful walking, mindful sitting) and muscle relaxation, and visual guided imagery (Erford, 2016). Furthermore, Alexander, et.al (2015) reported the findings from their exploratory study showed that the efficacy of yoga to improve self-care and mindfulness while reducing burnout among nurses practicing at an urban, tax-supported health network.

Limitations

One limitation of our explorative study is the small sample size and a lack of a control group. Therefore, it is not clear if the diminishment in stress levels is due to our interventions, or to other factors such as rewards from the institution or organization, social support, teamwork, work demand, and, work environment (Helps, 1997). Wickstrom & Bendix (2000) also mentioned other factors that can influence the results of intervention, like the spontaneous recovery of stress and non-specific factors like attention.

Another limitation of our study is the limited duration of the training. Our training was only given at two meetings as it had to enable the nursing personnel to perform their activities. On one hand, such a condition may limit the effects of the mindfulness training. But on the other hand, this situation reflects what happens when such a training is implemented in the reality of daily chores. As such, our training is more ecologically valid than an ideal one that does not take the daily work of the nurses into account.

For future research, we recommend to use a control group and increase the sample size for more firm conclusions about the effectiveness of the “Don’t Worry, Be Mindful” intervention. Also, a follow-up measurement is needed to understand the benefit of the practice of mindfulness in the longer term. Application of the intervention in nurses working in other departments and hospitals in Indonesia might give information about the generalizability of the findings. Finally, it would be interesting to know which aspects of stress are diminished in particular as a result of the intervention.

Implications for Practice

The study findings have a number of implications for emergency nursing personnel within health-care systems. Mindfulness-based intervention is a promising tool to reduce stress in emergency nursing personnel in a peripheral hospital in the less developed part of South-East country like Indonesia. Prior studies of mindfulness-based intervention, including nurses, who have participated in this intervention have reported the improvement of their ability to think clearly and to remain focused and calm in stressful situations (Cohen-Katz, et al, 2005). Another study revealed that nurses who practice mindfulness reported that they were better able to cope with negative emotions, more attentive and aware of thoughts and feelings during stressful life events, and better able to respond to their own needs and those of their patients (Davies, 2008). Many simple activities of mindfulness

technique can be done in everyday life of the nurses without disturbing their daily work, such as mindful meditation in everyday life (mindful breathing, mindful eating, mindful walking, mindful sitting) and muscle relaxation, and visual guided imagery.

CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the current results on the “Don’t Worry, Be Mindful” intervention in Indonesian nurses is promising for stress reduction, but it should be tested further in a study with

a randomized controlled design before becoming implemented in the clinical practice.

Funding Statement

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Conflict of Interest Statement

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

- Alexander, G. K., Rollins, K., Walker, D., Wong, L., & Pennings, J. (2015). Yoga for self-care and burnout prevention among nurses. *Workplace health & safety*, 63(10), 462-470.
- Bhar, S. (2018). Consuming with Mindfulness: Import of Buddhist Philosophy for an Ethic toward Consumerism. *Pertanika J. Soc. Sci. & Hum*, 26 (3): 1563 – 1578.
- Bishop, S. R. (2002). What do we really know about mindfulness-based stress reduction? *Psychosomatic Medicine*, 64, 71-84.
- Bohlmeijer, E., Klooster, P. M., Fledderus, M., Veehof, M., & Baer, R. (2011). Psychometric properties of the five facet mindfulness questionnaire in depressed adults and development of a short form. *Assessment*, 18(3), 308-320.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84: 822-848.
- Cohen-Katz, J., Wiley, S. D., Capuano, T., Baker, D. M., Kimmel, S., & Shapiro, S. (2005). The effects of mindfulness-based stress reduction on nurse stress and burnout: Part II. A quantitative and qualitative study. *Holistic Nursing Practice*, 19, 26-35.
- Cox, T. (1993). *Stress research and stress management: Putting theory to work* (Vol. 61). Sudbury: Hse Books.
- Cunningham, T., Bartels, J., Grant, C., & Ralph, M. (2013). Mindfulness and medical review: A grassroots approach to improving work/life balance and nursing retention in a level I trauma center emergency department. *Journal of Emergency Nursing*, 39(2), 200-202.
- Dane, E. (2011). Paying attention to mindfulness and its effects on task performance in the workplace. *Journal of Management*, 37: 997-1018.
- Davies, W. R. (2008). Mindful meditation: Healing burnout in critical care nursing. *Holistic Nursing Practice*, 22, 32-36.
- Erford, B. T. (2016). 40 Teknik yang Harus Diketahui Setiap Konselor. Yogyakarta: Pustaka Pelajar.
- Firstiyanti, V. (2016). *Pengaruh mindfulness meditation terhadap tingkat stres pada pasien dengan kanker di RW 3 Kelurahan Pacarkembang Surabaya dan Yayasan Kanker Indonesia Cabang Jawa Timur* (Doctoral dissertation, Widya Mandala Catholic University Surabaya).
- Glomb, T.M., Duffy, M.K., Bono, J.E., & Yang, T. (2011). Mindfulness at work. *Research in Personnel and Human Resources Management*, 30: 115-157.
- Hardjana AM. (1994). *Stres tanpa distres: Seni mengolah stres*. Yogyakarta: Kanisius.
- Helps, S.L. (1997). Experiences of stress in accident in emergency nurses. *Accident and Emergency Nursing*, 5, 48-53.
- Kabat-Zinn, J. (1994). *Mindfulness Meditation in Everyday Life*. New York: Dell Publishing.
- Leung, M. Y., Chan, Y. S., & Olomolaiye, P. (2008). Impact of stress on the performance of construction project managers. *Journal of Construction Engineering and Management*, 134(8), 644-652.
- Maguire, M., & Delahunt, B. (2017). Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. *AISHE-J: The All Ireland Journal of Teaching and Learning in Higher Education*, 9(3).
- Maharani, E. A. Pengaruh Pelatihan Berbasis Mindfulness Terhadap Tingkat Stres Pada Guru Paud. *Jurnal Penelitian Pendidikan*, 9(2), 100-110.
- McCloskey, S., & Taggart, L. (2010). How much compassion have I left? An exploration of occupational stress among children’s palliative care nurses. *International Journal of Palliative Care*, 16(5), 233-240.
- Parker, D. F., & DeCotiis, T. A. (1983). Organizational determinants of job stress. *Organizational behavior and human performance*, 32(2), 160-177.
- Puswiartika, D., Sulastiana, M., Hinduan, Z. R., & Harding, D. (2018). Mindful Teaching: A Narrative Exploration of Mindfulness. *Advances in Social Science, Education and Humanities Research*, doi:10.2991/jice-17.2018.35
- Reb, J., Narayanan, J., & Ho, Z. W. (2015). Mindfulness at work: Antecedents and consequences of employee awareness and absent-mindedness. *Mindfulness*, 6: 111-122.
- Sand, K.M. (2015). *Fostering Creativity: Adopting Mindfulness as an Innovative Approach to Managing Employee Stress*. Thesis. USA: Proquest LLC.
- Shackman, A. J., Maxwell, J. S., McMenam, B. W., & Greischar, L. L. (2011). Stress potentiates early and attenuates late stages of visual processing. *Journal of Neuroscience*, 31, 1156-1161.
- Shapiro, S. L., Carlson, L. E., Astin, J. A., & Freedman, B. (2006). Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62(3), 373-386.
- Smith, S. A. (2014). Mindfulness-Based Stress Reduction: An Intervention to Enhance the Effectiveness of Nurses’ Coping With Work-Related Stress. *International journal of nursing knowledge*, 25(2), 119-130.
- Sujudi, A. (1999). *Persyaratan Kesehatan Lingkungan Kerja*. Jakarta: Depkes.
- Valley, M., & Stallones, L. (2018). A Thematic Analysis of Health Care Workers’ Adoption of Mindfulness Practices. *Workplace health & safety*, 2165079918771991.
- Wentzel, D., & Brysiewicz, P. (2014). The consequence of caring too much: Compassion fatigue and the trauma nurse. *Journal of Emergency Nursing*, 40(1), 95-97.
- Wickström, G., & Bendix, T. (2000). The “Hawthorne effect”—what did the original Hawthorne studies actually

show?. *Scandinavian journal of work, environment & health*, 363-367.

Wijaya, Y. D. (2014). Pelatihan Pengelolaan Emosi dengan Teknik Mindfulness untuk Menurunkan Distres pada Penyandang Diabetes Mellitus Tipe-2 di Puskesmas Kebon Jeruk Jakarta. *Jurnal Psikologi*, 12(02).

Zeller, J., & Levin, P.F. (2013). Mindfulness Based Intervention to Reduce Stress among Nursing Personnel. *Workplace Health and Safety*. doi:10.3928/21650799-20130116-67.