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Original Article

Mind-body training and progressive muscle relaxation therapy on nurse with burnout syndrome

Asih Devi Rahmayanti 12, Kuswantoro Rusca Putra 1, Laily Yuliatun 1

¹ Master of Nursing Program, Faculty of Medicine, Universitas Brawijaya, Malang, East Java, Indonesia

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CORRESPONDENCE

Phone: +62 8191 6198656 E-mail: asihdevi.ry@gmail.com

ABSTRACT

Background: Nurse burnout could affect nurse's professional competence. Either physical or emotional burnout was related to an ineffective individual coping and emotional intelligence. The nurse burnout could be coped with a direct intervention on the individuals who practically focused on the mind and body system.

Purposes: This research was aimed to identify the effects of mind and bodybased therapies (MBT and PMR) for nurse burnout.

Methods: This research was quasi-experimental with two groups pretest-posttest design. The sample of this study was 50 nurses in the medical-surgical wards who were divided into intervention MBT and PMR with a simple random sampling technique. Collecting data using burnout syndrome measurements on nurses applied pre and post-intervention, which was analyzed by Wilcoxon and Mann-Whitney test.

Results: The mean value of the burnout subscale decreased significantly (emotional exhaustion and depersonalization) and increased (personal accomplishment) after the MBT and PMR programs (p<0.05). The comparison of effect between the two intervention groups on nurse burnout syndrome found no significant positive difference in the mean scores (p>0.05).

Conclusions: Mind body-based therapies (MBT and PMR) could reduce burnout syndrome significantly.

INTRODUCTION

Burnout is recently the main problem in the nursing profession. The nurse confronts a high level of burnout due to their higher job pressure than the other health professionals.1 Burnout results from work that can raise unpleasant stress in the work environment for a long time.² The burnout on nurse physic can also affect the nurse's professional competence and personal life and potentially lead to the reduction of staff number.³ The nurse burnout can be handled by giving a direct intervention on individual or nurse and intervention in the organization.⁴ The determination of intervention that will be used to handle nurse burnout should always be surveyed and analyzed in a comprehensive context on a related individual by benefitting interdisciplinary professional support.⁵ About 80% of intervention on individual and organization that has been analyzed can cause burnout decrease.⁶ The effectiveness

of cognitive behavior intervention given on every nurse individual has been documented.⁷

Either physical or emotional burnout is related to ineffective individual coping and emotional intelligence.⁸ The weak emotional intelligence is related to worry and coping strategy of avoiding the wrong psychological stress.³ The individual emotional intelligence and physical endurance can act as a moderator between stress and psychological health.⁹ Physical endurance is defined as an individual ability to adapt well to stress and difficulty.⁹ The mind and body-based therapies are therapy categories that, in its practice, will focus primarily on mind, structure, and body system, including bones, joints, soft bones, blood circulatory, and lymphatic system.¹⁰ The therapies asserted in this category by NCCAM include breathing exercise, yoga, meditation, body training, progressive muscle relaxation,

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and Music therapy.^{11,12} The mind and body-based therapies have been used in the last few years to help reducing stress, burnout and improve individual coping.¹¹

The online Mind-Body Training (MBT) program is designed to insert emotional intelligence and physical endurance contents that have been proven to result in advantages relating to stress, positive affect, and structure and brain function.^{9,13,14} This MBT program is formulated to combine physical and emotional relaxation exercises, physical movement, deep breathing exercises, and meditation practice suitable for a healthy population.¹⁵ Progressive Muscle Relaxation (PMR) is a mind and body practice that involves a willingness to stretch and relax from all body muscle groups, from head to toe.¹⁶ Similar to PMR, Music therapy is another kind of mind and body-based therapy that uses rhythm, melody, harmony, and other Music elements to increase the quality of an individual neuroendocrine system, resulting in a significant change in their feeling and mind structure.¹⁷ The Music therapy also affects the decrease in pulse, breathing frequency, systolic/diastolic blood pressure, and body temperature, provides relaxation, leads individual focus into several thoughts, reduces stress level, and improves life quality by delivering sensory, mental well-being.^{10,18}

The number of nurses is about 80% of total health officers in the world.¹ All world hospitals highly rely on nurse performance and service quality on the patient.³ The prevalence of nurse burnout in the United States is about 35-41%, nurse burnout in Iran 11%-80%, nurse burnout in China 35%, nurse burnout in Australia 17%, and nurse burnout in Brazil 51%.¹⁹ The burnout incident in Indonesia in the high category is about 2.98%, and the mediate category is about 97.02%.²⁰ The prevalence of nurse burnout in East Java that has taken samples from three hospitals refer emotional burnout symptom is about 228 (47%), depersonalization symptom is about 233 (48%), and decreased achievement symptom is about 237 (48,8%).²¹ The predictive factors such as work satisfaction, high workload, shift work, insomnia, year of service, marital status are the most causal factors of burnout in Indonesia.²⁰

The burnout causal factors, such as overtime work and irregular work hours, also the entire pressure work environment.²² The burnout related to emotional and physical burnout is an inseparable part of the work field, but some professions are more likely to burnout incidents.²² The high nurse burnout is a crisis problem in the whole world.¹⁹ Burnout negatively affects nurse health, well-being, and work satisfaction.²² Many nurses fall sick, often late for work, and not work-friendly to the patient.² Moreover, burnout may cause nurses to make mistakes, negligence, and missed nursing care on patients.¹⁰ It is hard for the hospitals to serve the best quality nursing when burnout appears on the nurse.¹⁹ The nurse burnout symptoms have been handled through individual therapy, for instance, mindfulness. Some researchers develop MBT in the late few years to overcome physical and emotional burnout. The online MBT is a training development from mindfulness, which means an awareness training program to reduce burnout and increase empathy.²³ PMR in combination with Music therapy can decrease stress, burnout and improve nurse coping in the intensive room.^{24,25} The effects of delivering a direct online MBT and PMR on nurse burnout are not significantly observed yet.

Regarding the advance of an online feature on the mind and body-based therapies that can help overcome burnout and anxiety through video, the researcher is interested in providing two kinds of intervention to decrease nurse burnout. Both interventions cover MBT and PMR. Therefore, it is interesting to compare those interventions as an innovation of online training aimed to decrease nurse burnout.

METHOD

Research Design

This research was research with quasi-experimental with two groups pretest-posttest design.

Setting and Respondent

This research was conducted in the medical-surgical inpatient ward of a private hospital in Malang. The population of this study was all nurses in the medical-surgical room. The sample in this study amounted to 50 respondents, divided into two groups randomly, namely the MBT group and the PMR group.²⁶ The inclusion criteria in this study were nurses who experienced burnout and worked in an inpatient room for at least one year, while nurses who were sick or of work were not included in the study.

Experimental Procedure

The researcher explained this research from all respondents and enumerators via online meeting. During the first online meeting, it has been explained about therapy steps in an animation video of two kinds of intervention. The researcher also divided the respondents into two different online chatting groups to ease communication and observation during the intervention according to the therapy group. The therapy intervention in animation video with a duration of 5-10 minutes was sent to the respondents to use the video as a guideline to have MBT and PMR therapy. The respondents should have intervention before the nurse shift under the supervision of the enumerator. The enumerator should make the therapy room as comfortable as possible by considering noise, cleanliness, and good air exchange and circulation. Both interventions should be given up to 10x therapy sessions within two weeks. Each therapy session of Respondent would be reported by filling google form link about the date of therapy and picture while having a therapy session. Within two weeks, the respondents did not have therapy as many as 10x sessions, so they were dropped out. After the time was ended, the research would collect the data that has been sent by respondents and res-measure posttest for nurse burnout.

The Variable, Instrumen, and Measurement

The variables in this research were nurse burnout syndrome with three burnout dimensions (emotional exhaustion, depersonalization, and personal accomplishment). The research material and instrument have been consulted to the experts concerning animation video for each relaxation therapy session. MBT has contained training stages that involved the whole focus of mind and bodybased skills.9 Meanwhile, PMR contained the breathing and muscle relaxation training steps, and music could relax the mind through pleasant Music elements.17,25,27 The research questionnaire consisted of questionnaire A that contained respondent personal data and questionnaire B that measured nurse burnout according to Maslach Burnout Inventory (MBI 2016) with the total item of 22 questions.²¹ The variable measurement in this research used a scale of 0-6: scale 0 = never, 1 = several times a year or less, 2 = once a month or less, 3 = several times a month, 4 = once a week, 5 = several times a week, 6 = every day. The average value of emotional exhaustion (EE) was divided into three categories: low (≤ 18), mediate (19-26), and high (≥27). The average value of depersonalization (DP) was also divided into three categories: low (≤5), mediate (6-9), and high (≥10). The average value of personal achievement (PA) was divided into three categories: low (\leq 40), mediate (34-39), and high (\geq 33). The nurses were stated as dealing with burnout if they were in the range of mediate and high average values.

Data Analysis

To test the effects of before and after MBT and PMR therapies through the Wilcoxon test. Next, to compare which therapy could be more effective for nurse burnout according to the difference between pre and post-therapy by using the Mann Whitney test.

Ethical Consideration

This research has received ethical approval from the Health Research Ethics Commission of Medicine Faculty of Brawijaya University with the following registration number 125 / EC/ KEPK – S2 / 04 / 2021.

RESULTS

The most age range was between 26-30 years old. Most respondents were female nurses; the last educational degree was bachelor's degree nurse, most of the respondents have worked for 1-3 years, have been married, and have permanent employee status (Table 1).

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Characteristic	Result				
Age					
26-30 Years Old	44 (88%)				
31-35 Years Old	6 (12%)				
Gender					
Male	19 (38%)				
Female	31 (62%)				
Educational Degree					
Diploma Program of Nursing	23 (46%)				
Bachelor of Nursing	27 (54%)				
Years of Service					
1-3 Years	42 (84%)				
4-6 Years	8 (16%)				
Marital Status					
Married	28 (56%)				
Unmarried	22 (44%)				
Employment Status					
Permanent Employee	34 (68%)				
Contract Employee	16 (32%)				

Before MBT, the average value of burnout dimension was in mediate until high category; thus, the nurses were stated as dealing with burnout syndrome. After mind-body training, the average value of burnout dimension was turned into a low category, which means that the nurses did not deal with burnout anymore. MBT could significantly affect three nurse burnout dimensions with p<0.05. Before PMR, the average value of nurse burnout dimension was in mediate until high category; thus, the nurses were stated as dealing with burnout. The average value of burnout dimension was turned into a low category after giving PMR; it showed that the nurses no longer deal with burnout. In short, PMR could significantly affect three nurse burnout dimensions with p<0.05. Based on statistical test on burnout value after the therapy was given, no difference of effects between mind-body-based training and progressive muscle relaxation therapies on nurse burnout was found with p>0.05 (Table 2).

DISCUSSION

This research result showed that MBT could affect nurse burnout, identified from three dimensions: emotional exhaustion, depersonalization, and Personal Accomplishment. The value decreases on three burnout dimensions after the intervention was in a low category, which it was referred no burnout found on a nurse. This research result was in line with previous research done in Korea, which has stated that online MBT could result in a significant effect on the decrease of burnout symptoms: stress, improvement of effective coping strategy use, improvement-

	MBT Group		PMR Group			Between Groups	
Variable	Mean		p-value*	Mean		p-value*	p-value**
	Before	After		Before	After	_	
Emotional Exhaustion	22.80	15.52	0.0001	23.04	15.68	0.0001	0.816
Depersonalization	6.76	4.48	0.001	6.80	4.64	0.0001	0.435
Personal Accomplishment	30.88	40.76	0.0001	32.20	41.64	0.0001	0.354

Table 2. Effects of Mind Body Training and Progressive Muscle Relaxation on Nurse Burnout

* Wilcoxon Test; ** Mann Whitney Test

of emotional intelligence, improvement of endurance, a decrease of anger and negative effect.⁹ This research was also in line with another previous research that has referred to a significant effect on the value of nurse burnout after mindfulness training was turned into a low category of burnout.²⁸ The other research results in China have asserted that the average value of nurse burnout after intervention in mindfulness therapy decreased. However, still, the burnout value was in a low category.²⁹ The other researchers who have also conducted a study on nurses in ICU room stated that the mean value of nurse burnout after the intervention of mindfulness in motion (MIM) for a month was turned into a low category.¹¹

MBT was a training program that involved full attention based on mind and body skills that have been proven to reduce stress and anxiety. MBT was also an art of stress healing and decrease based on participant awareness that has indicated a significant effect relating to anxiety, anger, stress symptom, and mood disorder.¹⁰ The healthy physical and mental states of staff were a substantial investment in an organization. The stress and ineffective coping strategies were parts of burnout symptoms.³⁰ Many types of research have compared the effectiveness of training a companion media, for example, the use of video to give training of burnout decrease. The benefit of video use as a training medium was that the memory of learning and training would remain longer. The breathing exercise in MBT was designed to facilitate limbic system health, which could be hampered due to the stress effect.³¹ The purposes were to release negative emotion and increase positive emotion. Further, the meditation was designed to improve brain cortex health related to memory distortion about stress and emotional imbalance.³² The purpose was to lessen mind negativity derived from stress to improve emotional regulation and handle stress.

The researcher argued that initial burnout on nurses was affected by a lot of individual factors. MBT was then evaluated for two weeks in this research and showed a significant effect relating to three burnout dimensions, especially on the emotional exhaustion dimension. The dimension of emotional exhaustion in the early value was in a mediate category. After the treatment was turned into a low category and no burnout was identified on the nurse. The change of emotional exhaustion value was due to decreased stress, improved effective coping strategy use, improved emotional intelligence, improved endurance, and anger and negative effect decrease. The stress decrease related to MBT treatment could be understood in the contexts of tension, frustration, anger, depression, and somatization decrease for eight weeks.⁹

The respondents who got MBT training could stand more for psychological pressure raised from work, the pressure such as job demand than before being given MBT as indicated by a decrease in the average score on each burnout dimension. The emotion was related to breathing, and the deep breathing of MBT therapy could affect physical relaxation and emotional relaxation.³³ The significant factor in decreasing burnout value observed during MBT training was related to the increase of emotional intelligence resulting from emotional change and stress. Based on this research finding, MBT training could reduce nurse burnout, improve emotional intelligence, and decrease stress, so the nurses could back to work according to their responsibility to the patient.

This research result referred that PMR significantly affects nurse burnout. This research result was in line with research done in Turkey, which has indicated that PMR was an effective way to reduce burnout and its symptoms such as stress, emotional exhaustion, and ineffective coping strategy. A reported similar result, the research result on control group which was given in oncology department found that Music therapy for a month could reduce respondent anxiety and improve well-being.^{25,34} The other research supported this recent research that a significant decrease of physical and mental exhaustion on nurses was identified in the group of PMR intervention.18 The calming Music could decrease stress levels on nurses who worked in the first line, emergency nurses.¹⁷ This research result was also in line with research that decreased burnout was identified after physical activity therapy for two weeks.35

PMR was a combination therapy for body muscle and mind relaxation, which involved stretching and relaxation from head to toe. PMR, which was combined with Music therapy, would lessen stress, exhaustion and improve nurse coping.^{17,25,27} Also, PMR has a combined relaxation technique of 108 body muscles; the primary purpose was to achieve muscle relaxation in the whole body without starting with muscle stretching.³⁶ The body movement in PMR

training was designed to increase brain stem health connecting to the autonomic nervous system. This body movement was also formulated to fix physical symptoms resulting from stress hormone secretion and improve body condition.31 On the last PMR session, it was provided about 2-3 minutes to enjoy feeling relating to relaxation session. In this phase, Musical relaxation was chosen to help mind relaxation.³⁴ The Music therapy was also another kind of mind-body-based training that used rhythm, melody, harmony, and other Music elements, improving the individual neuroendocrine system and bringing a significant change in feeling and mind structure.^{10,17} Moreover, Music therapy could decrease pulse, breathing speed, systolic/diastolic blood pressure, and body temperature, give relaxation, lead individual concern to the other thought, reduce stress level, and increase life quality providing mental health sensory.¹⁰

In combination with music, PMR was an effective method to manage stress and exhaustion and support more coping strategies that focus on nurse problems and emotions. The researcher also argued that through PMR therapy, the nurses could realize self-reflection ability, self-expression, and emotional process to prevent burnout. In combination with music, PMR could also be well-tolerated, well-accepted, and practically applied to nurses to overcome burnout.37 The nurses were the vital resources who could improve hospital service quality. The researcher also argued that the nurse's physical and mental condition should always be concerned and maintained. Nurse burnout can affect nurses' general health. According to the recent research and previous research results, it was stated that PMR could be used as a therapy to decrease nurse burnout incidents.

The comparison result between the effects of MBT and PMR therapies on nurse burnout in this research found no significant difference between both therapy groups. The average value difference of nurse burnout between before and after MBT therapy was lower than PMR therapy. The difference was also found in the average value of nurse burnout through those two kinds of therapy. Mind and body-based therapies could reduce physical and mental exhaustion, stress and improve individual coping strategies.⁹ The mind and body-based therapies could also decrease burnout symptoms on nurses, such as depression, decreased work enthusiasm, and work boredom.8 The mind and body-based therapies were the kinds of therapy that focused on mind, structure, and body systems, including bones, joints, soft bones, blood circulation system, and lymphatic system.¹⁴ Further, MBT and PMR therapies could have a similar effect on nurse burnout decrease.

The researcher analysis found no difference between the effects of the two interventions since both interventions have a similar effect of burnout decrease on central nervous performance. Both groups have a range of mediate categories in each dimension on the early measurement of nurse burnout. Both groups of respondents have similar characteristics to be compared, and no more other factors that could differ between those two groups. MBT and PMR therapies could raise comfortable feelings on respondents, so it affected controlled feeling on nurse self. During the research process, both groups were conditioned the same that they were on duty, and the environment was prepared in such a way, so the nurses could feel comfortable while having therapy sessions. Moreover, after 10x sessions of intervention, the nurses would be directly measured the level of burnout decrease without waiting for a break after the therapy.

During PMR therapy occurred brain function combination, mainly attention function and activation of auditory nervous system function. Through Music sound, the five senses would be stimulated through music listening, which ordered the body for relaxation.¹¹ The MBT therapy was followed by positive affirmation, which aimed to stimulate endorphins release that decreased anxiety, stress, and physical exhaustion. The level of nurse burnout after the intervention of MBT and PMR therapies was turned lower, and no more burnout results would certainly affect satisfaction over nursing service. Likewise, other researchers have stated that the nurses who did not deal with burnout would have the higher competence and self-potential to improve nursing quality.³⁸ In this research, the researcher could also recommend both therapies. MBT and PMR therapies to decrease nurse burnout, then, it could realize a good service quality.

This research also found that the effects of MBT and PMR with music on nurse burnout at Private Hospitals in Malang have restrictions; this research design did not consist control group to be compared to the other groups of intervention. This research used a questionnaire that was only aimed to measure burnout perception, without further observation to identify the actual condition of respondents. However, this research did not illustrate the long-term effects of therapies. Moreover, the therapy observation could not be directly performed due to the limited time during data sampling.

CONCLUSIONS AND RECOMMENDATION

This research proved that the effects of MBT and PMR therapies could decrease burnout syndrome significantly. Therefore, it is recommended that there is a need for policies and training on the application of MBT and PMR by hospitals for nurses to reduce burnout syndrome.

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