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## **Meditation and lavender aromatherapy combinations**

### **reducing stress of health students**

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#### **Abstract**

*Health students have been shown to have more stress than the general public. Student stress if left untreated can lead to health problems. previous studies have never measured a combination of meditation and lavender aromatherapy to reduce stress. This study aims to determine the decrease in stress of health students after being given a combination of meditation and lavender aromatherapy. Quasy Experiment pre test and post test of non equivalent control group. The sampling technique uses Quota sampling. The number of respondents was 40 people divided into two groups, namely 20 treatment groups and 20 controls. The bivariate test used is paired t-test with 95% CI value. Average stress score in the treatment group was 12.50 (normal stress) and in the control group of 14.60 (mild stress). The results of paired t-test in the treatment group obtained p value of 0.001 which means the difference in stress score before and after therapy with an average decrease of 3.20 points. In the control group there was a difference in stress score (p value = 0,000) with an average increase of 1.15 points. The combination of meditation and lavender aromatherapy effectively decreases the stress score of healthcare students. The combination of meditation and lavender aromatherapy can be a new standard for mental health nurses to manage stress on students.*

**Keywords:** Health Student; Stress; Meditation; Lavender Aromatherapy

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#### **INTRODUCTION**

Emotional mental illness is a condition indicating someone's psychological change which can be had in stress condition. Stress is one of the mental illnesses which can affectively happen in every individual with a body reaction to the expectation or unspecific encumbrance, with the overbearing demands to a certain person as the cause of stress. The findings show that the *prevalenion* of the emotional mental illness in Indonesia is 6, 0%. In Special Region of Yogyakarta is in the fourth rank with 8, 1%. This condition mostly happens in cities.



The students are affected by several stress sources such as the academic problems, interpersonal interaction, and the environment. In this case, it is stated that the external condition causes a lot of students' stress such as too many and overlaid assignments, the classes conducted in the morning to the evening, the lectures' explanation which cannot be understood by the students, agreement change by the lecturers, and the questions which cannot be answered by the students. The continuing stress can cause a serious condition such as depression if it is not handled. Thus, the ways to lower stress are needed. Meditation is a way that can be conducted to appease ourselves, to solve stress can be practiced both individually and in groups. Besides, the aromatherapy which has many benefits can also be applied. One of the benefits is healing the stress, in this case, the aromatherapy can appease or unwind the body so that it can appease the whole body functions related to the stress, and lavender aromatherapy is proven to solve the stress effectively.

Based on the study using stress questionnaires DASS 42 in Health Sciences Faculty of Respati University of Yogyakarta, the finding is from 30 students, there are 12 students get stress. Based on the interview result in Student Division, the treatment for the students' stress is not applied specifically yet. However, the counseling room located in the same room as the campus Student Division is prepared for the students. Unfortunately, there are only some students take counseling session there.

## RESEARCH METHODS

The type of the research which is conducted is a *Quasy experiment*, with *pretest and posttest nonequivalent control* group design. The sampling technique used in this research is Quota sampling technique with 40 respondents who are divided into two groups, 20 respondents for the control group and 20 respondents for the treatment (experiment) group. The combination between the meditation therapy and aromatherapy is given in 3 meetings a week with 15 minutes therapy. The lavender aromatherapy in this research is given by using inhalation method in which the respondents conduct meditation and were given the 1-2 drops lavender aromatherapy for 15 minutes which is put in a fireplace added by 15 ml water. The instruments used are DASS 42 stress questionnaires. The data normality testing distributes normally and the independent T-Test is conducted.

## RESULTS AND DISCUSSION

**Table 1.** The frequency characters distribution of respondents based on the age, sex/gender, and semester of health sciences faculty in Respati University of Yogyakarta (n=40)

Respondents Characters	Frequency (f)	Percentage (%)
Ages		
20 Years	9	22,5
21 Years	18	45
22 Years	12	30
26 Years	1	2,5
Total	40	100,0

Sex/Gender		
Male	3	7,5
Female	37	92,5
Total	40	100,0

The respondents in this research are mostly in the age of 21 years around 18 respondents (45%), most of them are female that is around 37 respondents (92, 5%).

**Table 2.** The distribution of stress score frequency before and after meditation therapy and lavender aromatherapy among health sciences faculty in Respati University of Yogyakarta for treatment group and control group (n=40)

	Minimum	Maximum	Mean	S.D	Score Differences
<b>Treatment Group</b>					
<i>Pre_test</i>	4	22	12,50	4,807	-3,20
<i>Post_test</i>	1	21	9,30	4,813	
<b>Control Group</b>					
<i>Pre_test</i>	6	24	14,60	5,576	1,15
<i>Post_test</i>	9	22	15,75	4,102	

In Table 4.2, the data shows that the average of stress score in the pretest of treatment group is 12,50 while the average of stress score in the post test of treatment group decreases into 9,30. In other side, the average of stress score in the pretest of control group is 14,60 while the average of stress score in the post test of control group increases into 15,75.

**Table 3.** The differences of stress score analysis before and after The combination of meditation therapy and aromatherapy among health sciences students in Respati University of Yogyakarta for treatment group and control group (n=40)

		Sig.
<b>Treatment Group</b> (n=20)	<b><i>Pre-test - Post-test</i></b>	0,001
<b>Control Group</b> (n=20)	<b><i>Pre-test - Post-test</i></b>	0,000

The data analysis based on T-Test Paired testing shows the significance value in the experiment group is 0,001 showing that ( $p < 0, 05$ ) so that the hypothesis states that there is different stress score between before and after the meditation therapy and lavender aromatherapy given to the students of the Health Sciences Faculty in UNRIYO. In the control group, the p-value (0, 00) is ( $p < 0, 05$ ); it means there is stress score difference of the students who answer the questionnaires.

1. The Stress Score of the Experiment Group Before and After the Combination between the Meditation and Aromatherapy Given to the Students of Health Sciences Faculty of UNRIYO

Based on table 4.2, the result of the statistic testing to the experiment group before the combination between the meditation therapy and lavender aromatherapy shows that the mean score of pretest is 12,50 , while the mean score of posttest is 9,30. The pre-post mean scores belong to the normal category. This condition

happens in everyone and every time which happens in exhaustion condition while doing the activities with the increase of the heart brake. Based on the findings, there is the decrease of stress score mean deviation which is 3, 20 point that shows the influence to the mean of the stress score after the therapy.

The stress got by the students can be affected by two factors which are internal and external environment factors. The internal environment factor involves the physical condition, attitude, interests, emotional, intellectual, and spiritual intelligent, while the external environment factor involves the assignments, social environment, and both the family and campus physical environment.

The students of Health Sciences Faculty of UNRIYO in the experiment group got lower stress score after they are given the combination between meditation therapy and lavender aromatherapy. The lavender aromatherapy is one of the therapies conducted by using the essential oil of lavender which gives comfy effect, stabilize the emotion and mind, and makes the mind and feeling become calmer so that the one who inhales it can face the stress calmly.

Conducting the meditation therapy for three times in a week causes the decrease of stress because the meditation functioned as relaxation has a principal to make the body calm, so that it's balance, thus, meditation for relaxation, which the core is the inhalation, can increase the oxygen circulation to the slack muscles.

2. The Stress Score of the Control Group Before and After the Combination between the Meditation and Aromatherapy Given to the Students of Health Sciences Faculty in UNRIYO

Based on table 4.2, the result of the statistical testing to the control group shows that the mean score of pretest is 14, 60, while the mean score of posttest is 15, 75. Based on the findings, there is the increase of stress score mean deviation which is 1, 15 point. The control group in this research got the rise of stress score. The mean of the pre-test score belongs to the low stress. The stress got by the students tends to increase if it isn't handled because the pressure faced by the individual is more than the individual persistence to face it so that it can increase adrenocorticotrophic (ACTH) hormone which belongs to stress hormones. The more stressor means the more effects taking by the body.

The stress happens in several conditions such as an anxious, lack of sleeping, and exhaustion which can disturb the daily condition so that it can cause negative effects to the health, social interaction and the students' academic achievement. However, if the individual can control the stress responses, it won't affect the students' academic achievement because the stress also give the benefits by motivating someone to be more alive and accurate in doing something and it is also a kind of response where someone should be more careful in doing something.

3. The Effect of the Combination between Meditation Therapy and Lavender Aromatherapy among the Health Sciences Faculty of UNRIYO Students' Stress Score

Based on table 4.3, the result of the Statistical Bivariate Testing Analysis of the treatment group after they are given the combination between the meditation therapy and aromatherapy is 0,001 ( $p < 0, 05$ ). The result shows that the combination between the meditation therapy and aromatherapy is effective to decrease the Health Sciences Faculty of UNRIYO students' stress score.

Meditation therapy gives positive effects because the meditation conducted regularly can help the individuals to make the body and mind relax. It can increase the oxygen circulation in the body and the alpha wavelength will increase and the

muscles will be slack so it can decrease the sympathetic neuron work and the adrenalin decreases so it can make the blood flows smoothly and the immune system becomes good. It can increase the wavelengths in the brain which are *alpha* and *teta* wavelengths. Through the alpha wavelengths, someone will feel comfortable, calm, and happy because the brain produces *serotonin* and *endorfin* hormones and *teta*wavelengths show that someone in a relax condition and calm mind which are caused by the brain which produces *melatonin* hormone as the sleeping controller and antioxidant.

The lavender aromatherapy given through inhalation affects the brain since it can increase the alpha wavelength' frequency and it puts someone in a relax condition. It can also stimulate smelling neurons and affects the stress because it affects the *limbic* system by increasing positive feeling. Lavender scent can affect the stress, the lavender oil containing *linalool* and *linalyl* can increase the *mood* and give relax effects.

Thus, it can be concluded that giving the combination between meditation therapy and lavender aromatherapy can influence the stress because along the therapy, the brain produces the *serotonin* and *endorphins* hormones and can influence the wavelengths in the brain which are alpha wavelength, besides, lavender aromatherapy *linalool* and *linalyl* which can increase the mood and function as relaxation media.

## CONCLUSION

The combination between meditation and lavender aromatherapy is effective to decrease the students' stress score. It can be a new standard for the mental nurses to manage the students' stress.

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