THE INFLUENCE OF LAUGHTER THERAPY ON STRESS AMONG NURSING STUDENTS OF RESPATI YOGYAKARTA UNIVERSITY

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Abstract
Clinical education in nursing might cause students to get stressed. A preliminary study conducted in Respati Yogyakarta University (UNRIYO) found out that 37.5% of them showed moderate stress, and 5.52% of them indicated normal stress. Laughter therapy is a therapy to overcome stress. UNRIYO has offered counseling for stress management but has not yet provided a therapy program for the students. This makes the researcher interested in laughter therapy to deal with stress among the students. The objective of this research is to identify the influence of laughter therapy on stress among nursing students of Respati Yogyakarta University. This was a quasi-experimental research with pre and posttest design with a non-equivalent control group. A quota sampling technique was used to collect data from 42 student. The Wilcoxon test was carried out for the intervention group, while the paired t-test was conducted for the control group. The independent sample t-test then used to find out the significance value between the intervention and control groups. Stress score is calculated between pre and posttest on both group. Pre-test score of intervention group was 13.00 and posttest score was 9.52. Pretest score of control group was 17.29 and post test score was 14.33. There was a difference in the score between intervention and control group(p-value = 0,000).

Keywords: depression anxiety stress, nursing student, laughter therapy

1. INTRODUCTION

There is a lot of stress on students because they try to adapt and adapt to the many experiences that have never been encountered before when in school [1]. Students complain of feeling stressed academically in the face of exams and class competitions and have too much information to learn but not enough time to master knowledge. During nursing and training education, nursing students are often exposed with various pressures that directly or indirectly inhibit their learning and performance. The nature of clinical education presents challenges that can cause students to experience stressed out. Studies show that nurse students feel a high level of stress and tend to experience stress than other students [2].

Stressor at UNRIYO is mostly in the form of external stressors originating from academics consisting of piling up assignments, examinations and education systems. Most study programs at UNRIYO have implemented Student Centered Learning (SCL) for the learning process. This is felt by students as the main source of pressure because of the inability of students to complete assignments [3]. This condition if not treated immediately can cause mental disorders.

Laughter therapy is one way to achieve a relaxed state. Laughter therapy is a combination of an increase in the sympathetic nervous system and also a decrease in the work of the sympathetic nervous system.

The increase serves to provide energy for movement in the body, but this is also followed by a decrease in the sympathetic nervous system, one of which is caused by there is a change in muscle conditions that become more relaxed, and a reduction in the solution to nitric oxide which leads to dilation of blood vessels, so that the average laugh causes blood flow as large as 20%, while stress causes a decrease in blood flow of around 30% [4].

2. METHODS

This research is a quasi experiment research with research design pre and post-test nonequivalent control group. The sampling technique used in this design is quota sampling. The sample in this study were 42 respondents who were divided into 21 intervention groups and 21 control groups. This research was carried out at Respati Yogyakarta University on April 7, 8, 14, and 15 ,2018. This therapy is given 4 times for 2 weeks using a therapist. The duration of laughter therapy is 45-60 minutes (maximum). Therapy schedules can be seen in the following **Table 1.**

Table 1. Therapy Schedule

Sunday-Friday	Saturday	Sunday	Monday-Friday	Saturday	Sunday
	Meeting.1 (Pre-test) 09.00 WIB Intervention Group 1	Meeting.2 09.00 WIB Intervention Group 1		Meeting.3 09.00 WIB Intervention Group 1.	Meeting.4 (*Post-test*) 09.00 WIB Intervention Group 1
	15.00 WIB Intervention Group 2	15.00 WIB Intervention Group 2		15.00 WIB Intervention Group 2	15.00 WIB Intervention Group 2
	Meeting.1 (*Pre-test*) Control Group				Meeting.2 (*Post-test*) Control Group

The instrument used in this study was the DASS (Depression Anxiety Stress Scale) questionnaire consisting of 42 questions with three scales and designed to measure three types of emotional scales, namely depression, anxiety and stress. Each scale consists of 14 questions. The scale for stress is rated from number 1, 6, 8, 11, 12, 14, 18, 22, 27, 29, 32, 33, 35, 39.

Univariate analysis in this study using numerical data consists of measures of central tendency with mean, standard deviation, error standards, maximum and minimum. Bivariate test analysis uses data normality, namely the Shapiro-Wilk test (p = 0.235). After obtaining the results of group analysis the intervention of the researcher used the Wilcoxon test, the control group in this study used a test requirement, namely the Paired T-Test. Comparison of the score difference between the two groups using the Independent T-test.

3. RESULTS AND DISCUSSION
3.1 Characteristics of Respondent

Based on **Table 2.**, the results of the characteristic analysis of the highest proportion of sexes from 42 respondents were female with 34 respondents (80.9%), while the male respondents were 8 respondents (19.04%). The intervention group was 16 female respondents (30.09%), while the control group had greater number of female respondents than the intervention group as many as 18 people (42.8%). The results of the characteristic analysis of the highest proportion of age of 42 respondents were 20 years, namely as many as 13 respondents (30.9%). Of the 42 respondents, 10 respondents in second semester (23.8%), 10 respondents in the fourth semester (23.8%), 10 respondents in the sixth semester (23.8%), and 12 respondents in eighth semester (28.6%).

Table 2. Characteristics of Respondents

Variables	Intervention Group (n=21)		Control Group (n=21)		Total	
	f	%	f	%	f	%
Sex						
Male	5	23.8	3	14.3	8	19.05
Female	16	76.2	18	85.7	34	80.9
Total	21	100	21	100	42	100
Age (years old)						
18	5	23.8	3	14.3	8	19.05
19	2	9.5	6	28.6	8	19.05
20	8	38.1	5	23.8	13	30.95
21	4	19.0	4	19.0	8	19.05
22	2	9.5	2	9.5	4	2.3
25			1	4.8	1	
Total	21	100	24	100	42	100
Grade						
Second semester	6	28.6	4	19.0	10	23.8
Fourth semester	4	19.0	6	28.6	10	23.8
Sixth semerter	5	23.8	5	23.8	10	23.8
Eighth semester	6	28.6	6	28.6	12	28.6
Total	21	100	21		42	100

Table 3. Analysis of Stress Scores on Laughter Therapy Intervention Group

Time	n	Mean±Standart Deviation
Pre- test	21	13.00±5.899
Post-test	21	9.52±5.463

Table 3. shows the average stress score in intervention group for the pre-test with a score of 13.00 (normal range stress score category), while the average stress score for the post-test decreased with a value of 9.5 (normal range stress score category). The data above shows a decrease in stress score of 3.48 point.

Table 4. Analysis of Stress Scores on Laughter Therapy Control Group

Time	N	Mean±Standart Deviation
Pre- test	21	17.29±7.100
Post-test	21	14.33±8.788

Table 4. shows the average stress score in the control group for the pre-test with a value of 17.29 (mild range stress category), while the average stress score for the post-test also decreased with a score of 14.33 (mild range stress category). The data above shows a decrease in stress score of 2.96 point.

3.2. Result of Bivariate Analysis

Table 5. Analysis of Stress Score between Pre Test and Post Test in Intervention Group

Variable	p-value
Differences in stress scores before and after given laugher therapy treatment	0,003

Based on the results of the statistics in the **Table 5.**, it obtained p-value 0.003 (p-value <0.05). It means there is significant difference between stress scores before and after given laughter therapy. This shows that laughter therapy can reduce stress scores of UNRIYO nursing students.

Table 6. Analysis of Stress Score between Pre Test and Post Test in Control Group

Variable	p-value
Difference in stress score before and after given laughter therapy	0,026

Based on the results of the statistics in **Table 6.**, it obtained p-value 0.026 (p-value <0.05). It means there is a significant difference between stress scores before and after the control group that is not given therapy.

Table 7. Comparison of Difference Scores Between Intervention and Control Group

Variable	p-value
The difference between intervention and control group	0,000

Based on **Table 7.**, the statistical results are obtained to compare intervention group and control group using the independent T-Test with a significant value of p-value 0,000 between groups. It means that there is a difference in the score between intervention and control group.

3.3. Stress Analysis between Intervention and Control Group Before Given Laughter Therapy

Table 3. shows average stress score on intervention group for the pre-test with a score of 13.00 (normal range stress score category). The pretest score of this study as well as previous research by Santika (2015) who show pretest data before Balinese music therapy carried out on the final semester students at UNRIYO mostly experienced stress in the normal category as much 42.2%.

Normal stress is natural part of life almost all humans experience it that requires adjustment to face stressor [5]. Normal stress becomes important as every individual must ever experience stress but if prolonged stress is experienced and the student is not able to conform to environmental stressors then the stress will continue on to the next level and vice versa if students able to conform to environmental stressors then it will be positive [6].

In accordance with previous research that says normal stress and mild stress have positive effects [3]. It illustrates that when the stress measurement before the therapy laughs, the possibility of the burden of the perceived task of the respondent is not too much although most respondents

reported that the environmental stressors experienced is the academic burden as much 33.33%, but students are able to adapt to assignments.

Table 4. shows the average stress score on the control group to pre-test with a value of 17.29 (mild range stress score category). The pre-test score of the control group on this study is different from previous studies showing the pre-test scores of respondents before being given guided emergency therapy against stress on final level students with the most average is moderate stress (70.6%) [7].

Mild stress is a stressor faced by everyone such as sleeping too much, traffic congestion, criticism from the boss, etc. This situation usually lasts a few minutes or several hours. Mild stress is usually not accompanied by symptoms. Mild stress is usually useful because can spur someone to think and try to be more resilient to face the challenges of life. It is supported by previous research say mild stress has a positive effect. Although stress also poses some physical problems but these symptoms are still within normal limits. Furthermore, positive stress will improve one's cognitive ability to solve problems[3].

3.4. Stress Analysis between Intervention Group and Control Group After being Given Laughter Therapy

Based on the **Table 3.**, average stress score intervention group post-test declines with a value of 9.52 which means the score is post-test respondents in normal levels. The data shows a reduction in stress scores from pre-test to post-test is as much as 3.48 and the average respondent experienced decreased stress score to normal levels. In previous research shows the results of the study that the final semester physiotherapy students are composing a thesis largely subjected to stress loss of 92.3% and increased by 7.7% after the therapy laughs [8]. The reduction in stress scores on the treatment group occurred because the treatment group gained a laugh therapy intervention. The research was backed by previous research that said that laughter is identical to doing aerobic. Laughing a minute alone has been to relax the body as much as 40 minutes [6]. By the time we laugh, the body will produce T-cells that are white blood cells and a type of protein that is important in the body's defense system. Laughter also reduces the production of hormone pressure. The resultant research shows that when laughing, an electric wave flows in the brain. Many parts of the brain, including the part in charge of managing emotions, intelligence and motion, are interconnected and related when we laugh. In accordance with previous research suggests that laugh therapy can soothe muscles, improve breathing and reduce hormones that make stress floating in the blood, laughter eliminates the effects of stress.

Table 4., shows the average post test score in control group decreased similarly to intervention groups, but the drop in post test scores on the control group is fewer. Post test score of control group is 14.33, which means stress is in a mild range. The data showed a decrease approximately around 2.96 point of stress scores in control group. In this study also showed that the control group experienced decreased stress only up to mild levels while in the lapsing stress score reduction treatment to normal levels. Similarly, the previous research by Lestari (2011) shows the results of pre-test and post-test of control group there is no change, if there are changes, and only very few [9]. Previous research by Dhesinta (2013) suggested the control group after the therapy intervention laughed against the elderly showed a slight increase in the average stress score of 97.17 to 97.83 [4].

3.5. Group Score Difference Analysis between Intervention and Control Group

Based on **Table 7.**, the statistics are obtained for comparing intervention groups and control groups using Independent T-Test with a significant value of p value 0.000 for both groups. Significance value 0.000 (p-value < 0.05) means there is a difference in the score difference in the intervention group and the control group. In addition to the p-value of the average difference between the two groups also show the mean on the intervention group is -3.48 which means there was a decline while the mean in the control group was + 2.95 which meant an increase occurred. P-value results in this study are similar to the research previous shows based on the results of the research. Researchers have done by using scale measuring instruments of stress levels in the elderly, obtained results calculations with a signification of 0.04 (p-value < 0.05) which means significant or there is a training influence on laughter against the decline in stress levels in elderly living in an Tresna Werdha Social Service Center.

The results of the study were also found that, there were differences between the groups that did not get the training (control group) with the group who received the training (experimental group)[9]. The conclusion of the above explanation is the difference between two groups with a p-value 0.000. These differences indicate that there is a therapeutic effect of laughing against stress on the treatment group.

4. CONCLUSION

Based on the results of analysis and discussion that has been outlined, it can be concluded as follows: a). Before laughter therapy, average stress scores on intervention group of UNRIYO 2014-2017 is 13.00(normal range stress score category); b). Once laugher therapy was done, the stress score in intervention group decreased with a value of 9.52 (normal range stress score category); c). There is a difference of stress score in intervention group with delta 3.48 point; d). Average pre test stress score on control group is 17.29 (mild range stress score category); e). Average post test stress score on control group is 14.33(mild range stress score category); f). There a significant difference in stess score between intervention and control group (p-value=0.000); g). Intervention group had lower stress score than control group.

There are some advices based on this result such as : a). UNRIYO nursing students can apply laugher therapy as one of the efforts to cope with stress; b). UNRIYO can apply laugher therapy on campus as one of the policies in dealing with stress on students; c). The results of this research can be used as comparison as well as examples for subsequent studies relating to laughter therapy. It is also possible for subsequent researchers to control the respondent not to follow other therapies and not to use the stress-independent way of dealing with the research to make the results more effective.

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