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THE EFFECT OF BUTTERFLY HUG ON ANXIETY AND STRESS LEVELS AMONG FINAL-YEAR STUDENTS AT KARSA HUSADA HEALTH SCIENCE COLLAGE GARUT IN 2025

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ABSTRACT

Final-year students frequently experience anxiety and stress due to academic pressure related to the completion of scientific papers. If not managed appropriately, these conditions may negatively affect students' mental health and academic progress. Butterfly Hug is a simple self-administered relaxation technique performed by crossing the arms over the chest and tapping alternately, producing a calming effect through bilateral stimulation. This technique is easy to perform, requires no equipment, and can be applied in various situations. This study aimed to determine the effect of Butterfly Hug on anxiety and stress levels among final-year students at Karsa Husada Health Science Collage Garut in 2025. The research design employed a one-group pretest–posttest design without a control group, involving 15 respondents selected using Simple Random Sampling (SRS). The instruments used were the Hamilton Anxiety Rating Scale (HARS) to measure anxiety and the stress subscale of the DASS-21 to measure stress. The intervention was conducted consistently and in a structured manner for four days with initial guidance from the researcher. Data analysis using the Wilcoxon Signed Ranks Test showed a significant reduction in anxiety and stress levels. The significance values were 0.001 for anxiety and 0.002 for stress ($p < 0.05$), indicating that Butterfly Hug had a significant effect in reducing anxiety and stress. Therefore, this therapy is expected to serve as an alternative self-intervention that students can utilize to maintain mental health while completing scientific papers.

Keywords: *Butterfly Hug, Anxiety, Stress.*

INTRODUCTION

Final-year students face numerous pressures, one of which is completing their final project (Perceka, 2020). The final project is a scientific paper prepared by undergraduate and diploma students based on research findings and serves as a graduation requirement for university study programs (Saifuddin et al., 2018).

Anxiety is an unavoidable aspect of life and often arises when individuals face pressures that exceed their ability to cope (Perceka et al., 2021). Anxiety disorders reported among university students are estimated at approximately 50% globally, while in Indonesia the prevalence of anxiety disorders among students is estimated at 3.7%. There are many factors contributing to anxiety disorders in students, including academic and non-academic factors such as significant academic pressure, financial problems, peer competition, achievement demands, homesickness, social problems, and irregular sleep patterns. Anxiety can also lead to physical health problems, such as increased cortisol secretion and increased consumption of sweet, low-nutrient foods (Haidar, de Vries, Karavetian, & El-Rassi, 2018).

Anxiety disorders have become one of the most significant global mental health issues, particularly in urban areas characterized by high levels of life stress. According to data from the World Health Organization (WHO), more than 264 million people worldwide experience anxiety disorders, and this number continues to increase along with the growing complexity of modern life. Individuals with anxiety disorders often exhibit symptoms such as excessive worry, panic attacks, and sleep disturbances, which ultimately negatively affect overall quality of life (Muslimahayati & Rahmy, 2021).

A study conducted by Zurrahmi et al. (2021) involving 18 final-year students showed that 61% of respondents experienced moderate stress and 17%

experienced severe stress. Among students with moderate stress, 73% were found to have poor sleep quality, while 75% of those in the severe stress group also experienced sleep disturbances. Meanwhile, Jusuf et al. (2022) reported that 5 out of 10 students from the Public Health Study Program at Gorontalo State University (class of 2018) experienced stress triggered by academic pressure, particularly related to final project completion. Another study by Agusmar et al. (2019) found that 87.5% of students from the 2015 cohort at the Faculty of Medicine, Baiturrahmah University, experienced moderate stress

Anxiety and stress have tangible impacts on students' conditions, including sleep disturbances and decreased appetite. To cope with these conditions, students reported attempting various methods such as listening to music, exercising, practicing breathing relaxation techniques, sleeping, or watching Korean dramas. However, despite these efforts, all respondents stated that their anxiety and stress levels did not decrease significantly. This phenomenon indicates the need for a more effective approach to help students manage anxiety and stress. One method with potential positive effects is the Butterfly Hug technique, which has been scientifically proven to reduce anxiety.

METHODS

This study employed a quantitative research approach, using numerical data. The research design was a one-group pretest–posttest design, which is classified as an experimental study. This method falls under quasi-experimental research. The design involved a single group receiving pretest and posttest measurements without a control group (Zainurridha et al., 2024).

The population of this study consisted of final-year students at Karsa Husada Health Science Collage Garut, totaling 476 students. However, the accessible population was 475 students, as one student was the researcher.

The sample size was determined to be 15 respondents, in accordance with guidelines for simple experimental research. According to Sugiyono (2017), simple experimental studies may involve 10–20 participants per group, and in practice 10–30 participants are acceptable, provided that external variables are strictly controlled and research instruments are valid and reliable.

The study was conducted by the researcher with the following procedures: preparing informed consent documents for respondents; distributing data collection instruments in the form of questionnaires; and providing instructions on how to complete the questionnaires.

To measure the effect of the Butterfly Hug on anxiety and stress levels, the Wilcoxon Matched Pairs Signed Ranks Test was used as a non-parametric test to examine differences between pretest and posttest scores for the anxiety and stress variables.

RESULTS

Table 1. Frequency Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	6	40.0%
Female	9	60.0%

Based on Table 1, most respondents were female (9 respondents; 60.0%), while male respondents accounted for 6 individuals (40.0%).

Table 2. Frequency Distribution of Respondents' Anxiety Levels

Variable	Frequency	Percentage (%)
Before Intervention		
Mild Anxiety	2	13,3%
Moderate Anxiety	3	20,0%
Severe Anxiety	10	66,7%
Total	15	100%

After Intervention		
No Anxiety	0	0%
Mild Anxiety	4	26,7%
Moderate Anxiety	11	73,3%
Severe Anxiety	0	0%
Total	15	100%

Based on Table 2, prior to the intervention, most respondents experienced severe anxiety (10 respondents; 66.7%). A total of 3 respondents (20.0%) experienced moderate anxiety, and 2 respondents (13.3%) experienced mild anxiety. After the Butterfly Hug intervention, anxiety levels decreased. No respondents experienced severe anxiety, and the majority (73.3%) were categorized as having moderate anxiety (11 respondents). A total of 4 respondents (26.7%) experienced mild anxiety. No respondents were categorized as having no anxiety after the intervention.

Tabel 3. Results of the Wilcoxon Statistical Test

Variable	Z	p-Value
Anxiety (Y1 pretest-posttest)	-3,436 ^b	,001
Stress (Y2 pretest-posttest)	-3,051 ^b	,002

Based on Table 3, statistical analysis using the Wilcoxon test showed that the p-value for anxiety was 0.001 and for stress was 0.002. These values are smaller than the predetermined significance level of 0.05. Therefore, H_0 is rejected and H_1 is accepted, indicating that there is an effect between variables. Thus, it can be interpreted that there is a significant difference before and after the Butterfly Hug intervention in anxiety and stress levels, indicating that Butterfly Hug effectively reduces anxiety and stress among final-year students at Karsa Husada Health Science Collage Garut.

DISCUSSION

Based on data analysis of 15 respondents selected using Simple Random Sampling (SRS), most respondents were female (9 respondents), while 6 were male.

The majority of respondents were from the Bachelor of Nursing Study Program (9 respondents), followed by the Diploma III Midwifery Program (5 respondents) and the Diploma III Health Analyst Program (1 respondent).

The results showed that prior to the Butterfly Hug intervention, most respondents experienced severe anxiety (66.7%). After the intervention, anxiety levels decreased to moderate anxiety (73.3%) and mild anxiety (26.7%). This reduction in anxiety levels was supported by bivariate analysis using the Wilcoxon test, which showed that the mean anxiety score decreased from 29.53 to 20.47, and the median decreased from 31 to 21.

These findings were further supported by the fact that all respondents experienced a decrease in anxiety scores (negative ranks), with no respondents showing increased or unchanged scores. This indicates that the Butterfly Hug intervention was effective in reducing anxiety levels. The statistical test also showed a p-value of 0.001, which is smaller than 0.05, indicating a significant difference in anxiety levels before and after the intervention.

Regarding stress, similar patterns were observed. Data analysis showed that most respondents were female (9 respondents) and the majority were from the Bachelor of Nursing Study Program (9 respondents), followed by the Diploma III Midwifery Program (5 respondents) and the Diploma III Health Analyst Program (1 respondent).

The results indicated that prior to the intervention, most respondents experienced very severe stress (53.4%). After the Butterfly Hug intervention, this proportion decreased to 20.0%, with 60.0% of respondents categorized as having severe stress and 20.0% categorized as having moderate stress. The mean stress score decreased from 19.87 to 17.07, and the median decreased from 20 to 17.

Further analysis showed that 12 respondents experienced a decrease in

stress scores (negative ranks), 2 respondents experienced an increase (positive ranks), and 1 respondent showed no change (ties). The Wilcoxon test yielded a p-value of 0.002, which is smaller than 0.05, indicating a significant difference in stress levels before and after the Butterfly Hug intervention.

CONCLUSION

The Butterfly Hug intervention has a significant effect on reducing anxiety and stress levels among final-year students at Karsa Husada Health Science Collage Garut.

RECOMMENDATIONS

Based on the findings of this study on the effect of Butterfly Hug on anxiety and stress levels among final-year students at Karsa Husada Health Science Collage Garut in 2025, educational institutions, particularly study programs are encouraged to provide education or brief training on stress and anxiety management techniques such as Butterfly Hug. This approach may contribute to improving students' overall mental health.

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