



## BUTTERFLY HUG THERAPY IN REDUCING STUDENTS' ANXIETY IN FACING FINAL ASSIGNMENT EXAMS

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### ABSTRACT

Anxiety is a psychological problem often experienced by students, especially when facing final exams. Anxiety that is not handled properly can interfere with academic performance and mental health. One non-pharmacological approach that can be used to overcome anxiety is butterfly hug therapy. Butterfly hug therapy is a simple bilateral stimulation technique that can be done independently to help reduce anxiety. This study aims to determine the effectiveness of butterfly hug therapy in reducing student anxiety. This study used a quasi experiment with one group pretest-posttest design. Sampling in this study used purposive sampling with the following criteria: willingness to be a respondent, being a sixth-semester final-year student who had not yet taken their final exams, and having mild to moderate anxiety score as screened using the Hamilton Anxiety Rating Scale (HARS). The sample obtained after screening consisted of 22 students experiencing mild to moderate anxiety. Anxiety levels were measured using the Hamilton Anxiety Rating Scale (HARS) before and after six intervention sessions. HARS has a Cronbach's Alpha reliability coefficient of 0.86, indicating an excellent level of internal consistency. In addition, content validity testing has been conducted by nursing and psychology experts, showing that each item is relevant for measuring the dimension of anxiety. The paired t-test analysis showed that butterfly hug therapy was proven to be significantly effective in reducing anxiety ( $p < 0.000$  ( $< 0.05$ )). butterfly hug therapy can be used as a practical and effective non-pharmacological intervention in managing student anxiety and can be integrated into mental health promotion in higher education institutions.

Keywords: anxiety; butterfly hug therapy; final project exam; students

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## INTRODUCTION

Anxiety is one of the psychological problems often experienced by students, especially when facing final exam tasks. Academic anxiety can manifest in psychological symptoms such as (palpitations, excessive sweating, difficulty sleeping), cognitive (negative thoughts, excessive worry), and behavioral (avoidance, procrastination). If not addressed, anxiety can decrease concentration, learning motivation, and students academic performance (Putri & Ramadhani, 2021). Anxiety is a subjective experience characterized by mental tension that induces feelings of restlessness as a common reaction and an inability to cope with problems or a sense of insecurity from within the individual (Pardede, 2020). Several studies indicate that the prevalence of anxiety in Asia is 65 million young adults experiencing anxiety problems during studies, predominantly among final-year students. In Indonesia, anxiety among Indonesian students is quite high, especially in the final phase of study. Research conducted by Rahayu et al. (2022) found that more than 60% of final-year students experience mild to moderate anxiety when facing final project exams.

Individuals experiencing anxiety will greatly need a relaxed, stable, and calm environment (Can et al., 2020). One of the efforts that can be made to address anxiety is cognitive therapy (Keliat et al., 2019), which includes music therapy, Cognitive Behavioral Therapy (CBT), behavioral therapy, counseling therapy, and butterfly hug therapy.

Butterfly hug therapy is a simple bilateral stimulation technique that encourages self-soothing. This technique involves crossing the arms over the chest and gently tapping the arms like the motion of butterfly wings (Jarero, 2014). This method serves as a bilateral stimulus aimed at reducing anxiety and calming oneself, thereby having a significant impact on the reduction of anxiety experienced by an individual (Kurniawan & Sudarta, 2024).

The research results show that butterfly hug therapy has an effect on reducing anxiety. A study conducted by Loren Julia (2024) indicates that butterfly hug therapy effectively reduces anxiety in nursing students. Furthermore, research conducted by Naspufah (2022) reported that butterfly hug therapy can influence the reduction of anxiety levels in students. This study aims to examine the effectiveness of butterfly hug therapy in reducing students anxiety when facing final project exams.

## METHOD

This study used a quasi experimental design with a one-group pretest posttest design. The sampling technique used was purposive sampling, with samples selected according to the inclusion and exclusion criteria set by the researcher (Febriyanti, 2023). The population in this study consisted of all 55 six students at the Banda Aceh Military Hospital Nursing Academy who had not yet taken their final exams. The sample in this study was selected based on the following criteria: willingness to be a respondent, being a sixth-semester final-year student who had not yet taken their final exams, and having mild to moderate anxiety score as screened using the Hamilton Anxiety Rating Scale (HARS). A total of 22 respondents were selected. Exclusion criteria included respondents who were unwilling to participate and students who were ill.

Before providing the intervention, the researchers instructed the students to fill out a questionnaire provided by the author as a pretest to assess anxiety levels, ensuring that all respondents had answered all questions. The pretest results were screened for anxiety levels according to the inclusion criteria. After the selection process was complete, the researchers provided butterfly hug therapy to 22 respondents in a room, six sessions over two weeks, in accordance with the time agreed upon in advance with the respondents. The first session was an introduction and orientation to butterfly hugs, the second session was recognizing bodily sensations and emotions, the third session was releasing negative thoughts, the fourth session was positive affirmations, the fifth session was self-connection and a sense of security, and the sixth session was closing and self-reflection. The final process was conducted to re-evaluate anxiety levels by giving the respondents a questionnaire as a post-test stage. The collected data was then analyzed using a computer program with a paired t-test.

## RESULT

This study was conducted from July 8 to July 22, 2025, involving 22 students experiencing mild to moderate anxiety at Akper Kesdam IM Banda Aceh, with the research results as follows :

Table 1.  
Respondent characteristics (n= 22)

Respondent Characteristic	f	%
Age		
20 Years	2	9
21 Years	18	82
22 Years	2	9
Gender		
Man	3	14
Women	19	86
Place of Residence		
Boarding house	12	55
Own house	10	45

Table 1, the characteristics of the respondents show that the majority of respondents are 21 years old, with 18 respondents or 82%. In terms of gender, most respondents were female, with 19 respondents (86%). In terms of place of residence, most respondents lived in boarding houses, with 12 respondents (55%), while 10 respondents (45%) lived in their own homes.

Table 2  
Level of Students Anxiety

Anxiety	Pre f	Pre %	Post f	Post %
Normal	0	0	15	68,2
Mild Anxiety	13	59,1	7	31,8
Moderate Anxiety	9	40,9	0	0

Table 2, it can be seen that before the butterfly hug therapy intervention, 13 respondents (58.1%) experienced mild anxiety and 9 respondents (40.9%) experienced moderate anxiety. After the butterfly hug therapy intervention, moderate anxiety decreased to mild anxiety in 7 people (31.8%), and mild anxiety decreased to normal in 15 people (68.2%).

Table 3  
The Effectiveness of Butterfly Hug Therapy in Reducing Student Anxiety

Anxiety	Mean	SD	Min	Max	p value
Pretest	19,55	4,068	14	27	0,000
Posttest	10,55	3,334	6	15	

Table 3, it can be seen that there is a difference or effect of butterfly hug therapy in reducing anxiety before and after intervention. After conducting the Wilcoxon test, the result was  $p\ 0.000 < 0.05$ , which means that butterfly hug therapy is effective in reducing anxiety in students facing final exams at the Academy of Nursing Kesdam Iskandar Muda Banda Aceh.

## DISCUSSION

Based on the results of the study, the majority of respondents were 21 years old, namely 18 respondents (82%). This results is in line with Arnet's (2000) study, which states that this age group is classified as late adolescence (18-25 years), a transitional period of development with high academic, social, and emotional pressures. During this phase, individuals face demands related to identity, studies, relationship, and career choices, which make them more prone to anxiety (Direk, 2010). Late adolescence is an age where individuals can socialize psychologically and are capable of independence, but at this age there are also psychological changes in adolescents, such as emotional changes, sensitivity or sensitivity, such as crying easily, feeling anxious, and even reacting aggressively to disturbances that affect them (Lau, DK, 2019). In terms of gender, females dominated with 19 respondents (86%). This is in line with Fei's (2021) research, which found that the prevalence of anxiety is higher among women than men. There are several factors that contribute to higher anxiety levels among women than men, namely biological, psychological, and socio-cultural factors (Altemus et al, 2014). Twelve respondents (55%) lived in boarding houses. Students who live in boarding houses are more prone to anxiety because they have to adapt from living with their parents to living with other people or alone, taking care of their own needs independently, managing their finances as best as possible, and facing the risk of loneliness due to separation from their families (Parlikar, 2023). This condition is exacerbated by high academic demands and the pressure to be independent, making students who live away from home more vulnerable to mental issues (Alsubaie MM, 2019).

The results of the study based on the findings show that there was a change in the frequency of anxiety between pre- and post-therapy among final-year students facing their final exams. Before therapy, 13 respondents or 59% experienced mild anxiety, and 9 respondents or 40% experienced moderate anxiety. After therapy, 15 respondents or 68% became normal, and 7 respondents or 32% became mildly anxious. Based on the evaluation results after 2 weeks of butterfly hug therapy 6

times, 10 participants said they felt calmer, more comfortable, their emotions were calmer, and they were able to think positively. These results support the theory of Crane and Ward (2016), which states that the butterfly hug is an effective technique for reducing anxiety, stress, and other emotional symptoms and is a valuable emotional management tool for certain professions, including service workers and nursing students.

The butterfly hug is effective in eliciting positive responses in individuals, such as feeling calmer, more comfortable, and more relaxed, because it is applied using bilateral stimulation techniques that focus on sound and rhythm, such as placing the right hand on the left shoulder and the left hand on the right shoulder and then tapping (Jarero, 2014). Tapping induces relaxation and feelings, enabling individuals to increase feelings of comfort and pleasure (Novalia, 2024). The butterfly hug can reduce feelings that weigh on the mind. In a study conducted by Girianto and Widayati (2021), they found that the butterfly hug was positively effective in reducing anxiety. The study explains that this intervention can change negative functional consequences into positive ones.

Based on the results of the study, we can see that  $p=0.000 < 0.05$ , it can be concluded that there is an effect of butterfly hug therapy in reducing anxiety in students facing final exams at the Iskandar Muda Banda Aceh Nursing Academy, where 22 respondents experienced a decrease in anxiety after being given butterfly hug therapy. Recent research also shows that self-soothing touch, such as butterfly hug therapy, can reduce physiological responses to stress, as indicated by a decrease in cortisol levels in response to stress and anxiety (Dreissoerner et al., 2021).

The results of this study are also in line with Naspufah's (2022) study, which found a significant decrease in anxiety with pre-test results of 39.00 and post-test results of 16.73,  $p$  value  $0.000 < 0.05$ , which means that the butterfly hug has an effect on the anxiety levels of nursing students. The application of butterfly hug therapy will make a person feel relaxed, calm their mind, boost their confidence, and reduce anxiety (Ramadhani, 2023). In line with Kadri's (2023) research, the butterfly hug affects emotional stability through bilateral stimulation that focuses on what is seen, heard, and felt, which crosses the body in a rhythmic pattern. The effect of bilateral stimulation shows an increase in communication between the two hemispheres of the brain, thereby improving the ability to process unpleasant events (Varghese, 2010).

Research has shown that when an individual's limbs cross the midline of the body, it activates the opposite side of the body, causing both hemispheres of the brain to work together, which helps stabilize emotions and mood (Kolodny P, 2022). In addition, butterfly hug therapy not only focuses on the effects of bilateral stimulation, which focuses on the rhythm of tapping, but also applies diaphragmatic breathing and the expression of feelings such as positive affirmations. Positive affirmations can reduce feelings of stress and anxiety because they support neuroendocrine responses and psychological stress (Hidayat, 2022). As explained by Artigas, Jarero (2000) and detailed in Shapiro's (2001) EDMR Text, it is noted that the butterfly hug technique has been successfully used to treat groups of children who have experienced trauma in Mexico (Susanti, 2025). Physical contact, such as touch, caresses, and hugs, triggers the release of oxytocin in the body, making individuals feel happy and reducing anxiety.

## **CONCLUSION**

Based on the results of research and discussion regarding butterfly hug therapy to reduce anxiety among students facing final exams at the Banda Aceh Military Nursing Academy, it can be concluded that butterfly hug therapy is effective in reducing anxiety among students facing final exams. This intervention helps stabilize emotions, improve self regulation, and create a sense of calm. The results of this study are expected to be used as one of the non pharmacological strategies that can be integrated into higher education environments.

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