

Analysis of Stress Management on Nutritional Status and Anxiety Levels among STIKes Hang Tuah Surabaya Students Completing their Final Assignments

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ABSTRACT

Background: Students who are dealing with their thesis often experience anxious and often neglect proper dietary management, potentially leading to changes in their nutritional their nutritional status. Each student engaged in completing their final assignment was required to possess effective stress reduction skills to maintain a positive mindset and achieve a state of relaxation, thereby facilitating the successful completion of their final assignment.

Purpose: This study aims to evaluate the impact of stress reduction towards nutritional status and anxiousness levels among Stikes Hang Tuah Surabaya students who are completing their final project.

Methods: This study uses quantitative research, with the research design is pre-experimental in one group. The population is final grade of students in S1 Nursing and D3 Nursing study programs at Stikes Hang Tuah Surabaya. The sample of this study was taken by simple randomization with a total of 108 students from 148 total population. This study used the Hamilton Rating Scale (HRS) for anxiety questionnaire and anthropometric measurements. Data were analyzed using the Wilcoxon test.

Results: The findings showed that the application of stress management methods given three times within one month significantly influenced the anxiety level and nutritional status of students. The Wilcoxon test shows that there is an impact of stress reduction on nutritional status and anxiety levels in facing final year projects at Stikes Hang Tuah Surabaya with the results of the pretest-posttest nutritional status $p = 0.002$ and the results of the pretest-posttest anxiety level $p = 0.000$ ($p < \alpha = 0.05$).

Conclusion: The findings of this study suggest that the implementation of stress reduction techniques has a significant impact on the nutritional status and anxiety levels of students completing their final assignments. Consequently, it is recommended that students facing culminating academic projects employ these stress reduction strategies during the course of their work.

Keywords: anxiety level, final assignments, nutritional status, stress management

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BACKGROUND

The completion of a thesis is a primary requirement for student graduation. For each student, this final assignment represents a phase in which each individual experiences unique stressors as not all students are ready to confront the final assignment (Malfasari et al., 2019). Stress is a response to the adaptation to ongoing demands. Individuals experience varying degrees of stress and the methods for alleviating their anxiety differ according to their unique subjective and personal characteristics (Moh, 2020). Furthermore, when confronted with their final projects, many students often exhibit insufficient attention to their nutritional intake. Consumption of food functions as a coping mechanism for anxiety, wherein the intake of specific foods primarily fulfills individuals' psychological needs owing to their inability to effectively manage the associated stress (Wijayanti Annisa et al., 2019).

According to WHO in 2017, depression and anxiety constitute a prevalent mental health disorder with a high prevalence rate. The results showed that more than 200 million people experience problems with tension and have negative effects (Labari et al., 2022). A survey conducted on final-year students showed that 60.4% of the respondents experienced anxiety (Firmansyah et al., 2021). Basic Health Research Survey 2018 prevalence of nutritional status based on BMI category, the majority of the adult population aged > 18 years in Indonesia was 9.3% with thin nutritional status, 55.3% with normal nutritional status, 13.6% with nutritional status more, and 21.8% with obesity nutritional status (Ministry of Health of the Republic of Indonesia, 2019). Anxiety may arise from two primary factors, internal and external. Stress is an internal factor that can affect student anxiety. Stress is a combination of conflict and frustration that must be faced (Putri Wahyuningtiyas et al., 2019). External factors that can influence student anxiety include alterations in nutritional status. Students engaged in the process of completing their final project are prone to experiencing emotional eating or undereating (Wijayanti Annisa et al., 2019). Individuals who feel stressed will not be able to use their minds critically and well; therefore, it is necessary to manage stress to restore good mindsets and relaxed feelings (Putri Wahyuningtiyas et al., 2019).

Students engaged in the preparation of their final projects must also consider their nutritional status. Nutritional status denotes the degree to which an individual's physiological nutrient requirements are fulfilled by dietary intake and physiological utilization. Nutritional status can also be affected by daily diet, physical activity, and sleep duration. Maintain a nutritious diet by consuming three balanced meals daily (Mufidah & Soeyono, 2021). An imbalance in intake and adequacy of nutrition can cause problems with nutritional status, excess nutrition, and malnutrition (Miliandani Devita & Meilita Zuhriya, 2021). Consequently, it is imperative for students engaged in their final project to possess effective stress management skills (Dwi Krisnanda & Albab, 2019).

OBJECTIVE

This study aimed to evaluate effect of stress reduction on nutritional status and anxiety levels among Stikes Hang Tuah Surabaya students completing their final assignments.

METHODS

The type of research used was quantitative research, with the research design used in the pre-experiment. The population in this study was 148 students in the final year of the Bachelor of Nursing and D3 Nursing Study Programs at Stikes Hang Tuah Surabaya. A total of 108 students were sampled using a simple random sampling technique. The inclusion

criteria for this study were last year students who completed their culminating assignments in the Bachelor of Nursing and Diploma 3 nursing study programs at Stikes Hang Tuah Surabaya. The exclusion criteria for this study included students who were not engaged in their final project, were unwilling to participate as respondents, and had not selected the Bachelor of Nursing or Diploma three nursing study programs. The Hamilton Rating Scale for Anxiety (HAR-S) questionnaire was used in this study to collect data pertaining to anxiety levels and anthropometric measurements, including weight, height, and body mass index, to gather data related to nutritional status. The treatment used for stress management in this study is to follow stress management techniques consisting of grounding, unlooking, engaging, being kind, and making room which are arranged in the form of modules. stress management treatment is carried out for 1 month, after 1 month of treatment, respondents are rechecked for stress levels and nutritional status. The research was conducted by distributing questionnaires to the final-year students in each class. This research was conducted on April – July, 2023. This research protocol had passed the etical review by the Stikes Hang Tuah Surabaya Research Ethics Committee Number PE/28/VI/2023/KEP/SHT. The data were analyzed using SPSS to obtain the frequency distribution. Data were analyzed using the Wilcoxon test.

RESULTS

Data collection was carried out on July 2023. The subjects of this study were last year students of S1 Nursing and D3 Nursing study programs who were facing their final assignments with a total of 108 respondents who met the research inclusion criteria. The results section describes the general description of the research site, general data and special data. The data were collected by giving a questionnaire and the data were then discussed according to the research objectives.

Demographic Data

The table below shows the distribution of the frequency of characteristic of respondent last year students of the Bachelor of Nursing and D3 Nursing study programs based on the level of anxiety at Stikes Hang Tuah Surabaya.

Table 1. Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Age		
20 years	2	1.9
21 years	22	20.4
22 years	55	50.9
23 years	22	20.4
24 years old	4	3.7
25 years	2	1.9
37 Years	1	9
Total	108	100
Gender		
Male	16	14.8
Female	92	85.2
Total	108	100

As presented in Table 1, the age distribution of the participants shows that most of the respondents is 22 years old (50.9%) and sex distribution was female (85.2%).

Anxiety Level

The table below shows the distribution of the frequency of pretest and posttest last year students of the Bachelor of Nursing and D3 Nursing study programs based on the level of anxiety at Stikes Hang Tuah Surabaya.

Table 2. Anxiety Levels of Last Year Students of Bachelor of Nursing and D3 Nursing Study Programs at Stikes Hang Tuah Surabaya

Anxiety Level	Pretest		Posttest	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Not Worried	17	15.7	49	45.4
Mild	27	25.0	38	35.2
Moderate	35	32.4	19	17.6
Severe	26	24.1	2	1.9
Panic Level	3	2.8	0	0.0
Total	108	100	108	100

The results of the study in Table 2. show that the pre-test results of the final level students of the Bachelor of Nursing and D3 of Nursing study programs at Stikes Hang Tuah Surabaya showed that as many as 35 people (32.4%) experienced moderate levels. While the post test results showed that 49 people (45.4%) did not experience anxiety.

Nutritional status

The table below shows the distribution of the frequency of pretest and posttest last year students of the Bachelor of Nursing and D3 Nursing study programs based on nutritional status at Stikes Hang Tuah Surabaya.

Table 3. Nutritional Status of Last Year Students of Bachelor of Nursing and D3 Nursing Study Programs at Stikes Hang Tuah Surabaya

Nutritional status	Pretest		Posttest	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Malnutrition Status	35	32.4	22	20.4
Normal Nutrition Status	17	15.7	74	68.5
More Nutritional Status	56	51.9	12	11.1
Total	108	100	108	100

The results of the study in Table 3 show that the pretest results of last year students of S1 Nursing and D3 Nursing study programs at Stikes Hang Tuah Surabaya had a nutritional status of more than 56 people (51.9%), while the results of the post test conducted in the month showed that the nutritional status of students with normal nutritional status was 74 people (68.5%).

Influence of Stress Reduction on Nutritional Status and Anxiety Levels in Facing the Final Assignment of Stikes Hang Tuah Students in Surabaya

This table shows the impact of stress reduction on nutritional status and the level of anxiety facing the final assignment of Stikes Hang Tuah Surabaya students.

Table 4. Pretest and Posttest Effects of Stress Reduction on Nutritional Status of Last Year Students of Bachelor of Nursing and D3 of Nursing Stikes Hang Tuah Surabaya

Nutritional status	Pretest		Posttest	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Malnutrition Status	35	32.4	22	20.4
Normal Nutrition Status	17	15.7	74	68.5
More Nutritional Status	56	51.9	12	11.1

Total	108	100	108	100
Wilcoxon Statistical Test Value 0.002 (p=0.05)				

Table 4 shows that before being given stress management techniques on nutritional status facing the final assignment of Stikes Hang Tuah Surabaya students and data obtained that 56 people (51.9%) had normal nutritional status and after being given stress management techniques for 3 times in 1 month the results showed that there were 74 people (68.5%) had normal nutritional status. Based on the results of the Wilcoxon test, it shows a value of $p = 0.002$ ($p < 0.005$), from these results it is known that there is a significant influence between stress management on nutritional status in last year students of S1 Nursing and D3 Nursing study programs at Stikes Hang Tuah Surabaya.

Table 5. Pretest and Posttest Effects of Stress Management on Anxiety Levels of Last Year Students of Bachelor of Nursing and D3 of Nursing Stikes Hang Tuah Surabaya

Anxiety Level	Pretest		Posttest	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Not Worried	17	15.7	49	45.4
Mild Anxiety	27	25.0	38	35.2
Moderate Anxiety	35	32.4	19	17.6
Severe Anxiety	26	24.1	2	1.9
Serious Anxiety	3	2.8	0	0.0
Total	108	100	108	100
Wilcoxon Statistical Test Value 0.000 (p=0.05)				

Table 5 shows that before being given stress management techniques on the level of anxiety facing the final project of Stikes Hang Tuah Surabaya students and data obtained that 35 people (32.4%) experienced moderate anxiety. After being given stress management techniques for 3 times in 1 month, it was found that as many as 49 people (45.4%) did not experience anxiety. Based on the results of the Wilcoxon test, it shows a value of $p = 0.001$ ($p < 0.05$) from these results it is known that there is a significant effect between stress management on anxiety levels in last year students of S1 Nursing and D3 Nursing study programs at Stikes Hang Tuah Surabaya.

DISCUSSION

Researchers examined the changes from before and after completing the final project for one month using stress management techniques. Stress reduction is the potential to use resources effectively to manage mental and emotional disruptions or disturbances that occur as a result of a response. Stress management aims to improve well-being so that it becomes better under the individual's own control. In this stress management technique, there are skills that enable a person to anticipate, prevent, manage, and recover from changes in nutritional status due to threats and inability to cope (Nefi Darmayanti & Meutia Nanda, 2019). The purpose of doing stress management techniques for students who are facing this final assignment is so that nutritional status can return to normal after stress management is carried out compared to before stress management techniques are carried out so that it is hoped that it will reduce the incidence of undernutrition and overnutrition.

According to Wijayanti Annisa et al., (2019) final-year students experience significant nutritional challenges, with over 50% facing nutritional issues, predominantly overnutrition. Factors influencing changes in nutritional status include the consumption of meals 2-3 times daily, with portion sizes exceeding pre-final project norms. Furthermore, participants reported frequent snack consumption while engaged in final assignment work, such as

consuming chips or bread, and eating up to four times daily when working on assignments late into the night. According to Rahayu & Fitriana (2020), factors associated with changes in nutritional status include diet, physical activity, body image, and depression. Fundamentally, an individual's nutritional status is determined by food consumption and the body's capacity to utilize these nutrients. Several previous studies have indicated that high levels of physical activity potentially protect against obesity by maintaining the energy balance and preventing excessive adipose tissue accumulation. The physical changes experienced by students can influence their body image.

The factors that influence changes in nutritional status are eating 2-3 times a day, but the portion of food consumed is more than usual compared to before the final project. In addition, the subject admitted that he ate more snacks during the final assignment, such as eating chips or bread, and ate 4x a day if he woke up in the middle of the night and was still working on his final assignment. Factors underlying changes in nutritional status in young adults include levels of physical activity, dietary behavior, psychosocial factors, female gender, victims and perpetrators of bullying behavior, incorrect perceptions of nutrition, and potential social isolation (Kartika Wening & Afiatna, 2019). The female sex experienced more changes in nutritional status because lifestyle and environment greatly influenced the nutritional status of women. When completing their final assignments, women experienced more confusion and stress so that nutrient intake and eating patterns were irregular and emotional eating occurred. During the completion of the final project, the hormones noradrenaline and CRH can reduce appetite as well as cortisol, which can increase appetite (Bottaccioli et al., 2021).

Students experience difficulties in working on the final project, such as finding and formulating problems, looking for the right title, systematic proposals and theses, difficulty finding literature, difficulties with scientific writing standards, funds, and limited time in working on the final project (Setya Aji et al., 2019). Students experience anxiety due to several factors, such as age, gender, and last education. Everyone, the age factor, of course, can be a factor that causes student anxiety because as is well known, young adults are the easiest to experience anxiety (Dwi Pratiwi et al., 2019). Everyone, the age factor, of course, can be a factor that causes student anxiety because as is well known, young adults are the easiest to experience anxiety (Dwi Pratiwi et al., 2019). Students experiencing anxiety may experience a reduction in their academic performance due to interference with memory function when anxiety manifests in an individual. Elevated anxiety levels can impede communication between supervisors and students during thesis guidance sessions. The interaction between supervisors and students in thesis guidance necessitates a communication role that can influence students' cognitive, affective, and behavioral processes in completing their thesis (Wakhyudin et al., 2020).

Previous research conducted in Turkey revealed a significant relationship between stress and nutritional status, indicating that stress plays a crucial role in the incidence of underweight and overweight conditions as well as in energy and food item consumption. In this study, stress was measured using a stress symptom scale, stress-related factors, and susceptibility to stress. The total score is significantly correlated with body mass index, energy intake, and daily nutrient consumption (Rahayu & Fitriana, 2020). Researchers hypothesize that individuals facing their final academic assignments often neglect proper dietary habits owing to the constraints and demands of tasks that must be completed within a limited timeframe, potentially inducing anxiety. When experiencing anxiety, one of the physiological balances that is disrupted is food intake. Consequently, individuals experiencing anxiety may have altered dietary patterns, leading to uncontrolled nutritional

status. Upon conducting interviews, researchers found that most respondents reported difficulties in locating references, comprehending the concept of the final project in question, and experiencing apprehension regarding meetings with their supervisors (Tripathy et al., 2019).

Research interviews conducted with respondents who experienced changes in nutritional status and anxiety revealed that these individuals could be provided with one of the five stress management techniques. In addition to these five techniques, other commonly employed stress coping methods include religious worship, meditation, listening to music, watching television, sleeping, engaging in hobbies, conversing with parents or close friends, exercising, practicing yoga, smoking, consuming alcohol or drugs, and spending extended periods on social media. Stikes Hang Tuah Surabaya has implemented several programs to support students, including preparatory sessions for the final project, group supplication (istighosah), collective prayers, and regular guidance from supervisors. Respondents reported that these programmes facilitated their preparation for the final project, thereby mitigating severe anxiety. These programs are conducted annually and are not limited to single events. The purpose of these initiatives was to promote calmness and reduce excessive anxiety among students. According to some respondents, these programs contribute to a sense of tranquility and direction, consequently alleviating anxiety.

The high activity of final-year students related to academic activities triggers various disturbances that can affect student productivity, including nutritional status and excessive anxiety. Researchers assume that someone facing a final assignment often ignores a good diet due to constraints and the demands of tasks that must be done in a short time, causing anxiety, and when experiencing anxiety, one of the body balances that is disrupted due to the anxiety caused by changes in food intake. Therefore, someone who experiences anxiety will also interfere with their eating patterns, so that the nutritional status of the individual is not controlled.

CONCLUSION

The results of this study found that many last year students in the Bachelor of Nursing and D3 nursing study programs experienced anxiety and changes in nutritional status due to their final assignment. Stress reduction techniques were given 3 times within 2 weeks and the results showed that there is an effect of stress management on the nutritional status and the level of anxiety of Stikes Hang Tuah Surabaya students' final assignments.

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CONFLICTS OF INTEREST

There is no conflict of interest

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