


The Relationship Between Stress And Acne Severity In Students Of Nursing Study Program Level III At Santa Elisabeth College Of Health Sciences Medan In 2024

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Article Info	ABSTRACT
Keywords: Stress, Physiological and psychological condition, Pathophysiological conditions	Stress is a physiological and psychological condition that occurs when a person is faced with pressure or situations that are considered to threaten the balance of his life. Stress can cause various pathophysiological conditions, one of which is acne. The research used quantitative researchers with a cross-sectional approach. The sampling technique in this study used total sampling with a sample size of 97 respondents. The results of the study showed that respondents had more moderate stress levels of 50 respondents (51.5%) and moderate acne severity of 49 respondents (50.5%). The results of the Spearman rank statistical test obtained a p-value = 0.108 ($p > 0.005$), meaning that H_0 was accepted - there was no relationship between stress and acne severity in third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024. There is no relationship between stress and the severity of acne in third-year nursing students at the Santa Elisabeth Health Sciences College, Medan in 2024.
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INTRODUCTION

Students are in their late teens who are in the age range of 18-25 years. At this age, students are in the development stage from late adolescence to early adulthood (Aziz, Suryanti, & Ramanda, 2020). Adolescence is a period of emotional and psychological development, this condition can affect a person's soul and psychosocial complications to the emergence of stress. Students are part of the group that experiences stress due to academic pressure. Academic problems are one of the causes of stress in students (Eso, Hafit, & Dahlan, 2022).

Acne is an inflammatory skin disease of the pilosebaceous unit (Chahoub et al., 2023). Acne is a skin disorder that is often found in both adolescents and adults aged 17–24 years (Larasati & Setyowati, 2022). Acne is a disease of the pilosebaceous glands characterized by blackheads, papules, pustules and nodules. Acne lesions occur on the face, back, chest and shoulders (Traub, 2020). Acne is not a dangerous disease, but it has an impact on sufferers, especially adolescents physically and psychologically, it can cause anxiety, stress, depression, and lack of self-confidence (Sukmawati et al., 2022).

According to the Global Burden of Disease (GBD) study, the prevalence rate of acne is 9.4%, making it the eighth most common disease in the world. Around 85% of teenagers aged 12-25 years have acne (Sibero, Sirajudin, & Anggraini, 2019). Research in Germany found that 64% of 20-29 year olds and 43% of 30-39 year olds had acne (Dekotyanti, 2022). Research in Southeast Asia, the prevalence of acne cases reached 40-80% (Fadilah, 2021). Research in Indonesia, according to the Indonesian Aesthetic Dermatology Research, the number of cases was 60% in 2006 and 80% in 2007. In 2009, 90% had acne (Sifatullah & Zulkarnain, 2021). Research in North Sumatra on female students reached 31% with mild acne severity and 28%,6 with moderate acne severity (Na'im & Meher, 2022).

Based on the results of initial data conducted by researchers, namely by observing 10 third-year nursing students at STIKes Santa Elisabeth Medan, there was 1 student experiencing moderate acne, and 9 students experiencing mild acne. During the interview, the researcher observed the students' acne on their faces and found that many acne appeared on the forehead, cheeks, and chin.

Some causes of acne are due to sebum hypersecretion, hyperkeratinization, colonies of propionibacterium acnes (*p. acnes*), and inflammation (Aziz, Suryanti, & Ramanda, 2020). Other factors related to acne are genetic factors, stress, environment, hormones, food, trauma, drugs and cosmetics (Fadilah, 2021). Physiologically, stress conditions cause the activation of the HPA (Hypothalamus Pituitary Axis) which can increase the concentration of ACTH (Adrenocorticotrophic Hormone) and prolonged glucocorticoids. Increased ACTH triggers an increase in androgen hormones which play a role in stimulating increased sebum production and stimulating keratinocytes. Increased sebum and keratinocytes result in acne (Hall & Guyton, 2016).

According to the American Academy of Dermatology, acne treatment is assessed based on the degree of acne. Mild acne can be given topical retinoids or benzoyl peroxide or topical combination therapy. Moderate acne can be given topical combination therapy (oral antibiotics, topical retinoids and benzoyl peroxide) or (oral antibiotics, topical retinoids, benzoyl peroxide and topical antibiotics). Severe acne is given oral antibiotics and a combination of topical therapy or given oral isotretinoin (Eso, Hafit, & Dahlan, 2022).

METHOD

This study uses a quantitative method with a cross-selection approach. The study was conducted at the Santa Elisabeth Medan Health Sciences College located at Jl. Bunga Terompet no 118, Medan. The study was conducted on May 03-06, 2024. The population is all 97 third-year students of the Nursing Study Program at the Santa Elisabeth Health Sciences College, Medan in 2024. The instrument used was a DASS-42 questionnaire sheet consisting of 14 stress scale items and a GAGS (global acne grading system) observation sheet.

RESULTS

Table 3.1. Frequency and Percentage Distribution Based on Demographic Data (Age, Gender, Gender, and BMI) in Level III Nursing Study Program Students at the College of Nursing Health of Saint Elizabeth Medan 2024 (n=97)

Characteristics	Frequency (F)	Percentage (%)
Age		
17-25 Years	94	96.9
26-35 Years	3	3.1
Total	97	100
Gender		
Man	11	11.3
Woman	86	88.7
Total	97	100
IMT		
Underweight	15	15.5
Normal Body Weight	62	63.9
Overweight	10	10.3
Obesity I	17	7.2
Obesity II	3	3.1
Total	97	100

Table 3.1 frequency and percentage distribution based on demographic data (age, gender, and BMI) of third-year nursing study program students at the Santa Elisabeth Health Sciences College Medan in 2024 with 97 respondents shows that the most are aged 17-25 years in late adolescence, 94 respondents (96.9%) and the least are aged 26-35 years, 3 respondents (3.1%). The most respondents are in gender, 86 respondents (88.7%) and the least are in male gender, 11 respondents (11.3%). Based on the BMI table, normal weight is 62 respondents (63.9%), obesity I is 17 respondents (7.2%), underweight is 15 respondents (15.5%), overweight is 10 respondents (10.3%), and obesity II is 3 respondents (3.1%).

Table 3.2 Distribution of Respondents Based on Stress in Level III Nursing Study Program Students in Saint Elisabeth College of Health Sciences Medan 2024 (n=97)

Student Stress	Frequency (F)	Percentage (%)
No Stress	7	7.2
Light	13	13.4
Currently	50	51.5
Heavy	23	23.7
Very heavy	4	4.1
Total	97	100

Table 3.2 distribution of respondents based on stress in third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024 with 97 respondents shows that respondents have a normal stress level of 7 respondents (7.2%), a mild stress level of 13 respondents (13.4%), a moderate stress level of 50 respondents (51.5%), a severe stress level of 23 respondents (23.7%), and a very severe stress level of 4 respondents (4.1%).

Table 3.3 Distribution of Respondents Based on the Severity of Acne in Students Nursing Study Program Level III at the Santa Elisabeth Health Sciences College Medan 2024 (n=97)

Acne Severity Level	Frequency (F)	Percentage (%)
No Lesions	0	0
Light	47	48.5
Currently	49	50.5
Heavy	1	1.0
Very heavy	0	0
Total	97	100

Table 3.3 Distribution of respondents based on the severity of acne of third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024 with 97 respondents showed mild acne severity of 47 respondents (48.5%), moderate acne severity of 49 respondents (50.5%), and severe acne severity of 1 respondent (1.0%).

Table 3.4 Cross Tabulation Results between Stress and Acne Severity Level of Students Nursing Study Program Level III at the Santa Elisabeth Health Sciences College Medan 2024 (n=97)

Stres	Acne Severity Level								<i>P-value</i>
	Light		Currently		Heavy		n	%	
	(f)	%	(f)	%	(f)	%			
Normal	6	6.2	1	1.0	0	0	7	7.2	0.108
Light	8	8.2	5	5.2	0	0	13	13.4	
Currently	22	22.7	27	27.8	1	1	50	51.5	
Heavy	7	7.2	16	16.5	0	0	23	23.7	
Very heavy	4	4.1	0	0	0	0	4	4.1	
Total	47	48.5	49	50.5	1	1.0	97	100	

Table 3.4 cross-tabulation results between stress and acne severity of third-year nursing students at the Santa Elisabeth Health Sciences College, Medan in 2024 with 97 respondents show that the results of the correlation test using the Spearman rank show that the p -value = 0.108 or $p > 0.05$, so the hypothesis (H_a) is rejected and (H_o) is accepted, which means there is no relationship between stress and acne severity in third-year nursing students at the Santa Elisabeth Health Sciences College, Medan in 2024.

Discussion

Based on research conducted on 97 respondents regarding the relationship between stress and acne severity in third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024, the following results were obtained:

Stress in Nursing Study Program Students Level III at Santa Cruz Health Sciences College Elisabeth Medan 2024.

The results of the study on the distribution of respondents based on stress in third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024 with 97 respondents found that the most stress respondents had was moderate stress, amounting to 50 respondents (51.5) and the least stress category was very severe, amounting to 4 respondents (4.1%).

Several studies conducted by Djoar and Anggarani (2024) suggest that final semester stress in the process of completing final assignments can cause stress when dealing with

supervisors, lots of revisions, difficulty finding literature, and the need to complete assignments on time in order to take exams. Research conducted by Afryan et al. (2019) stress can affect the onset of acne, this condition is in accordance with the theory that stress is a condition that can affect a person's emotions, thought processes and conditions and express itself in the form of rejection, tension, or frustration, disrupting balance, physiological when stress results in activation of the hypothalamus pituitary axis. In the study of Silvia et al. (2019) this condition can increase the concentration of Adrenocorticotrophic Hormone and prolonged glucocorticoids. Increased ACTH can stimulate an increase in androgen hormones which function to trigger the formation of sebum and keratinocytes. Increased sebum and hyperkeratinocytes result in acne (Silvia et al., 2019).

Based on the results of this study, the researcher assumes that the level of stress of students in the category of moderate stress levels, stress in each person varies depending on the circumstances of the person themselves. Everyone always has conflicts between friends, family, or teachers/lecturers. Students who experience social, physical and economic problems such as socializing with friends, developing interests and talents in academic and non-academic activities, financial problems also have a negative impact on the psyche of students so that they become stressed.

The researcher's opinion on stress is caused because they undergo a more complex college life, such as a busy lecture schedule, exams, practicums, undergoing a thesis process that results in irregular sleep patterns so that they experience stress. The occurrence of stress in both sexes is caused by male students not easily experiencing stress compared to women because men are required to be stronger than women. Female students are more likely to be susceptible to stress, this condition is controlled by the hormones oxytocin, estrogen, and sex hormones as supporting factors that are clearly different in level in men and women. The criteria for stress levels are the same for all sexes. However, women are more likely to experience eating disorders, anxiety, sleep disorders, and feelings of guilt.

Acne Severity Level in Third Grade Nursing Study Program Students in College Saint Elisabeth Health Sciences Medan 2024.

The results of the researcher's research on the distribution of respondents based on the severity of acne of third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024 with 97 respondents found that the level of acne severity in the respondents was the most, namely moderate stress, as many as 50 respondents (51.5%) and the least, namely very severe stress, as many as 4 respondents (4.1%).

Research conducted by Sifattullah and Zulkarnain (2021) acne is a disease that can be found at all ages. This is a chronic inflammation of the sebaceous gland follicle unit. The cause is multifactorial clinical features in the form of blackheads, papules, pustules, and nodules. The results of Syahputra's study (2021) show that acne can appear at any age, but hormonal influences cause acne to appear in adolescence. In addition, many factors can trigger acne, such as foods with high fat content such as (nuts, chocolate, cheese, milk, fried foods), carbohydrates, junk food and high calorie counts, increased physical activity, incorrect use of cosmetics, use of illegal drugs and drinks, stress, washing facial skin

(cleanliness), facial skin condition, climate/temperature/environment. Bacterial infection (*Propionibacterium acnes*), and heredity.

According to the researcher's assumption, the occurrence of acne in third-year students is because most respondents consume food around campus which based on the researcher's observation, the available food is dominated by high-fat foods. Several respondents' confessions also occur when they experience stress, such as exams, personal problems or just when menstruating.

The researcher's opinion on acne occurs due to factors (multifactors). This difference is due to many causes of acne, thought to be genetic, hormones, fatty foods, use of cosmetics, infection and trauma, sensitive skin conditions, stress, environment or pollution, rarely cleaning the face or body, rarely changing bed sheets, menstruation, and staying up late.

Relationship between Stress and Acne Severity in Nursing Study Program Students Level III at the Saint Elisabeth Health Sciences College Medan in 2024.

This study explains that the results of the correlation test using Spearman rank show that the p value = 0.108 ($p > 0.05$), so the hypothesis (H_a) is rejected, meaning that there is no relationship between stress and the severity of acne in third-year nursing study program students at the Santa Elisabeth Health Sciences College, Medan in 2024.

According to the researcher's assumption, that was found in third-year students who were experiencing stress could not directly cause acne, because there are many triggers for acne, namely hormones, high-fat foods, genetics, use of cosmetics, infections and trauma, sensitive skin conditions, stress, rarely cleaning the face or body. Acne is also caused by other factors, namely the environment, because Indonesia has a tropical climate or is classified as warm, tends to be hot and humid throughout the year which triggers acne.

The researcher's opinion on the relationship between stress and acne, acne can appear because most respondents live in dormitories where some students may not pay attention or ignore the cleanliness of the bathtub and rarely brush the bathtub and do not make a filter on the water tap so that respondents who have sensitive skin can get acne and lack of motivation or willingness to take care of themselves in these students. Other things can be caused by often squeezing the face which has the potential to become acne scars.

CONCLUSION

Based on the results of the study on the Relationship between Stress and Acne Severity in Level III Nursing Study Program Students at the Santa Elisabeth Health Sciences College, Medan in 2024. Specifically, researchers can conclude that there is no relationship between stress and acne severity in level III nursing study program students at the Santa Elisabeth Health Sciences College, Medan with a p value = 0.108 ($p > 0.05$).

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