



eISSN : 2579-8324

pISSN : 2579-8323

Alamat Korespondensi:

Ruang Redaksi Andalas Obstetrics and Gynecology Journal, Lantai 3 PPDS Obstetri dan Ginekologi Universitas Andalas, RSUP DR. M. Djamil Padang, Jl. Perintis Kemerdekaan Padang, Sumatera Barat 25127

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RESEARCH

The Relationship Between the Stress Level and the Vaginitis Symptoms Toward Batch 2019 Students of Faculty of Medicine Andalas University

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Abstract

Objective: determine the relationship between stress levels with symptoms of vaginitis in medical students at the Faculty of Medicine, Andalas University batch 2019.

Method: was observational analytic with cross-sectional approach. Sampling was conducted by non-probability sampling. The sample was 140 by conducting a guided interview on 140 female students of the Medical Education Faculty of Andalas University batch 2019. The stress level of the female students was measured by a stress questionnaire from the Depression Anxiety Stress Scale (DASS 42) and vaginitis symptoms questionnaire. Data analysis used Chi-Square test.

Result: more than half of respondents which is 71 respondents (50,6%) has stress. Then, moderate stress levels is the largest percentage, that is 31 respondents (43,6%). Most respondents, 121 respondents (86.4%) have experienced symptoms of vaginitis. The statistical test results obtained p -value = 0.943.

Conclusion: more than half of respondents has stress and most respondents have experienced symptoms of vaginitis. The p -value showed that there is no significant relationship between stress levels and symptoms of vaginitis.

Keywords: Stress, vaginitis, adolescent

INTRODUCTION

Adolescence is a critical period of the transition from kids to adults. There are some changes to teenagers, such as hormonal, physical, psychological, and social as the time goes by.¹

One of the teenager health needs that must be heeded is a reproduction health. The reproduction health is a physical, mental, and social conditions as a whole, not solely free from the illness or disability that is related to the system, function, and process of reproduction.² The development and reproduction system maturation occur as swiftly as the body immune system. To females, it is susceptible for the risks of reproduction health disorder to happen even though it is in the health condition.³



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Vaginitis is an inflammation that happens to the vagina where overall things, such as vaginosis, bacterial, candidiasis vulvovaginal, and trichomoniasis, are the greatest number of vaginitis cases. Almost 5 – 10 million of women have a consultation session with the gynecologist for vaginitis every year in around the world.⁴ It is predicted that 75% of women have experienced the vaginitis, at least once in a lifetime and 40-45% with repeated episodes along with some risk factors. The most symptom of the infection is itchy, irritation, painful, and leukorrhea in a thick secrete, clotted and smelly, whitish, greyish, or greenish.⁵

Women with a high stress level is more possible to experience vaginitis than those whose stress level is low. Stress is an emotional feeling that interrupts together with the biological psychological, and social changes of someone.⁶ This research was conducted by Wahed and it was obtained that 62,4% students experience stress with the most number of respondents 442 students.⁷ The proof showed that medical faculty students or doctors who have a higher symptom than other populations, from the sides of psychology pressure, depression, anxiety, and exhaustion that are caused by the additional stress from a longer study period. It is risky to be exposed by a pathogen infected by the patients.

The research is about the stress prevalence that is done to the 329 medical students (respondents). Its stress prevalence is around 52,4%. With many stressors, a research conducted in Andalas University in 2017 using a DASS (*Depression Anxiety Stress Scales*) questionnaire shows that more than a half of the first-year medical students suffered from stress with 51,1% prevalence.⁸ Some other researches proved that there is a stress enhancement that relates to vaginitis. Stress can interrupt the body immunity and cause vaginitis, not only because of the pathogen, but also the body immunity and microflora in the vagina.⁹

In the chronic stress exposure, it can disturb the vagina immunity function and affect women to get vaginitis. The body immunity that is innated by the vagina is correlated with the adaptive immunity respond IgA toward the hemolysin produced by the bacteria that causes vaginitis.¹⁰

Based on the statement above, the researchers are interested in finding out the relationship between the stress level and the vaginitis symptom to the medicine faculty students in Andalas University in 2019.

METHODS

This research is an observational analytic research with a *cross sectional* research design. It is done in August – December 2019. The population of the research is all Batch 2019 female students of Faculty of Medicine Andalas University. The sampling technic used is *probability sampling* method that is chosen through a *proportional simple random sampling*. It is where each individual of the sample population has the same chance to be the research sample.¹¹



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The variable of the research consists of the independent variables, which are stress level, while the dependent variable is the vaginitis symptom to the female students. The stress level is measured by a *Depression Anxiety Stress Scale 42 (DASS 42)* questionnaire that has got 14 statements with the form of statements that illustrate someone's stress level. Meanwhile the vaginitis symptom is measured by a validated vaginitis symptom questionnaire. The researchers use a questionnaire with a "yes" and "no" answers with each score "1" and "0" respectively.

The data analysis of the research uses the univariate analysis to see the frequency distribution and the bivariate analysis to see the relationship between the independent and dependent variables by using a *chi square test* with a significant degree (α) 0,05. If *p-value* < 0,05, it means that there is a meaningful relationship between both variables.

RESULTS AND DISCUSSION

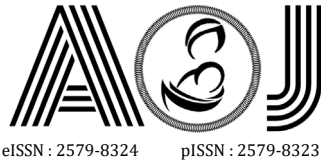
Univariate Analysis

This research is done in August – December 2019 in the Faculty of Medicine Andalas University with a research subject the 168 Batch 2019 female students. The data is obtained from the questionnaire spreading. There are 149 people who fill up and return the questionnaires. From the number above, 140 questionnaires are fulfilling the inclusion and exclusion criteria to be research samples.

Table 1. The Frequency Distribution of the Age of Batch 2019 Female Students of Faculty of Medicine Andalas University.

Stress level	F	%
Normal	69	49,2
Mild	28	20
Moderate	31	22,1
Severe	10	7,1
Very severe	2	1,4
Total	140	100

Based on the Table 1, the research result is among 140 respondents, 69 respondents (49,2%) suffers from the normal stress level compared to people who suffer from stress. 31 respondents (43,6%) suffer from the moderate stress level compared to 71 respondents who suffer from stress.



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Website:<http://jurnalobgin.fk.unand.ac.id/index.php/JOE>**Table 2.** The Frequency Distribution of the Vaginitis Symptom of the Batch 2019 Female Students of Faculty of Medicine Andalas University.

Vaginitis Symptom	F	%
No symptom	19	13,6
Present	121	86,4
Total	140	100

Based on the Table 2, 121 respondents (86,4%) shows vaginitis symptoms.

Bivariate Analysis

Bivariate analysis is performed to evaluate the difference of each variable by using a *chi square* statistic test with a significant degree (α)0,05.

Table 3. The Relationship Between the Stress Level and Vaginitis Symptoms Cycle to the Batch 2019 Female Students of Faculty of Medicine Andalas University.

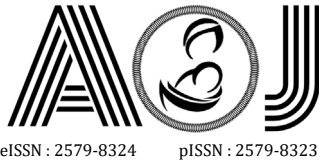
Stress Level	Vaginitis Symptoms				Total	
	No Symptoms		Present		N	%
	N	%	N	%		
Normal	10	14,5	59	85,5	69	100
Mild	6	21,4	22	78,6	28	100
Moderate	3	9,7	28	90,3	31	100
Severe	0	0	10	100	10	100
Very Severe	0	0	2	100	2	100

Table 3 shows the most vaginitis symptom that is suffered is the moderate stress level with 28 respondents (90,3%). Students who do not suffer from the vaginitis symptom are the ones with the normal stress level, 10 respondents (14,5%).

Since there are 5 cells that does not fulfill the expected count >5 , so the requirement of the *chi-square test* cannot be fulfilled. The other alternative is to combine the stress level cells, which are normal stress, moderate stress, heavy stress, and severe stress. The results obtained are below:

Table 4. The Relationship Between the Stress Level and the Vaginitis Symptom Cycle to the Batch 2019 Female Students of Faculty of Medicine Andalas University.

Stress Level	Vaginitis Symptoms				Total		p-value
	No Symptoms		Present		N	%	
	N	%	N	%			
No stress	10	14,5	59	85,5	69	100	0,947
Stress	9	12,7	62	87,3	71	100	



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The *chi-square test* result from the table above obtains a *p-value* 0,947 ($p\text{-value} < 0,05$) that shows there is no meaningful relationship between the stress level and the vaginitis symptom to the Batch 2019 Female Students of Faculty of Medicine Andalas University.

DISCUSSION

Based on the research result, it shows that more than a half of overall respondents, or 71 students (50,6%) suffers from stress. This goes long with the research performed by the Isnayanti (2018) towards the Batch 2016 first year student of Faculty of Medicine in University of Muhammadiyah North Sumatra. There were 57% students who suffer from stress.¹² From 71 students who suffer from stress, the highest stress level is the moderate stress level, which 31 students (22,1%).

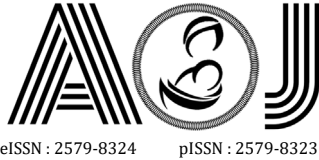
This also goes along with the research performed by RD Rahmayani (2019) towards Batch 2017 first year student of Faculty of Medicine in Andalas University. It illustrated the highest stress level of the respondents, which is 91 respondents (48,4%) of 188 respondents.⁸

The research suitability perhaps occurs because of the similarity of the examined respondent characteristic, which is the first-year medical faculty female students. The research conducted by G Augesti (2015) also shows that the stress level of the first-year female students is higher than the final year students.¹⁴

The causal of the stress toward the first-year students, in the researchers' opinions, is the adaptation process of the students with the university environment. The lectures schedule, tutorial, tight *skill lab* is their first time to experience. It can be the causal of the stress to the first-year students. The result goes along with Moffat *et al.* (2004) in the research that stated the stressor of the first-year students has the significant result ($p < 0.0001$), which is about the study characteristic, group work, and the study process adaptation with the new curriculum.⁸ However, the research result performed by Saerang (2014) to the Batch 2010 female students of the Faculty of Medicine Sam Ratulangi University, Manado stated most of the female students (60%) did suffer from stress or normal.¹⁵

Basically, the number of the high stress level is caused by many factors, since stress is a form of self-adaptation that can be a non-specific body responds towards the demands or burdens of someone.¹⁶ Someone's varied responds depend on the study experiences, medical conditions, and genetic tendencies to experience pressure and health problems.¹⁷ The body respond based on the psychological and physical demand that are experienced by one individual is adaptive. Therefore, the stress level or responds to the stress for teenagers is not the same each other.¹⁸

The analysis result about the symptom distribution of the vaginitis symptom towards Batch 2019 Female Students of Faculty of Medicine Andalas University shows that more than a half of the respondents, 121 respondents (86,3%), suffer from the vaginitis symptom while



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the rest do not. This result goes along with the research performed by WU Gialini (2019) that 78 respondents (76,4%) of 102 respondents suffered from vaginitis.¹⁹ This result also goes along with the research conducted by Aubyn (2013) about the vaginitis prevalence and the lifestyle of the students in the University of Cape Coast, Ghana, where it is obtained that 66% of the respondents suffer from vaginitis.²⁰ The suitability of the research is because there are many factors that affect the appearance of the vaginitis symptom.

The research done by Singh (2018) about the study of risk factors from the vagina infection to the women in reproductive ages shows that the risk factors of the wide-spectrum antibiotic usage, diabetes, pregnancy, and hygienical problem are the factors that might not be realized to cause vaginitis.²¹

Based on the data analysis using a *chi-square test* with significant value (p) 0,05, The result obtains a *p-value* 0,947(*p-value* < 0,05) that shows there is no meaningful relationship between the stress level and the vaginitis symptom to the Batch 2019 Female Students of Faculty of Medicine Andalas University. This goes along with the research performed by Pratiwi (2017) that there is no relationship between stress and *Fluor Albus* (*p-value*=0,643) which is one of vaginitis symptoms.²²

This result also goes along with the research done by Chorsen (2010) that the relationship between the stress level and the reproduction health problem, one of them is vaginitis, does not always exist. Pathologic leukorrhea is one of the vaginitis symptoms that can be caused by bacteria from certain reproduction illnesses and women can suffer from pathologic leukorrhea even though they do not suffer from stress.

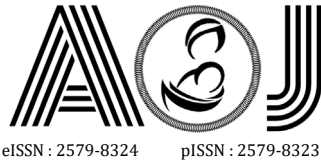
Women who suffer from stress with no vaginitis symptom probably has a quite strong body immunity system to fight the vagina bacteria that is inside their bodies.²³ The other risk factors that can cause the appearance of the vaginitis symptom. Inadequate hand washing process can increase the bacteria contamination to vulva and cause irritation. The usage of tight clothes, undergarment fabrics that does not absorb the sweat can cause an irritation.^{24,25}

CONCLUSION

There is no meaningful relationship between the stress level and the vaginitis symptom towards Batch 2019 Female Students of Faculty of Medicine Andalas University.

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