



DIFFERENCES IN ANXIETY AND INSOMNIA LEVELS BETWEEN OBESE AND NON-OBESE STUDENTS CLASS OF 2016 OF THE FACULTY OF MEDICINE, DIPONEGORO UNIVERSITY

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ABSTRACT

Background: Anxiety and insomnia can be experienced by anyone, including students, both obese and non-obese. Many pressures and problems experienced by obesity and non-obesity students will cause discomfort and have an impact on mental health problems such as anxiety which can develop insomnia. **Objective:** To determine differences in levels of anxiety and insomnia among college obesity and non-obesity students, faculty of medicine. **Methods:** This study is an observational analytic study with cross-sectional approach. The sample is 122 people, consisting of 21 respondents obesity and 101 respondents of non-obese who are students of the Faculty of Medicine Batch 2016 Universitas Diponegoro. Sampling with a total sampling method. Measured respondents' level of anxiety using a questionnaire Zhung Self-rating Anxiety Scale and the level of insomnia using a questionnaire Insomnia Severity Index. The test used is Chi-square. **Results:** The research results showed that anxiety in obesity 1.6% and non-obesity of 3.3%. While insomnia in obesity of 8.2% and the non-obesity of 28.7%. Based on the results of statistical tests show there is no significant difference in anxiety levels between obese and non-obese ($p=275$) and there is no significant difference in the level of insomnia among obese and non-obese ($p=0,475$). **Conclusions:** There is no significant difference in terms of the level of anxiety and insomnia between obesity and non-obesity.

Keywords: Anxiety, insomnia, obesity, non-obesity

INTRODUCTION

Anxiety is a condition that can be experienced by everyone in everyday life, anxiety is usually experienced when feeling scared or lost of confidence with no apparent cause or form.¹

Reports of anxiety disorders in young adulthood in the United States was estimated around 18.1% or around 42 million people living with anxiety disorders.² Based on research conducted by Ibrahim and Moatas at Alexandria University in Egypt in 2014, the prevalence

of anxiety and depression among medical students at the University respectively was 43.9% and 57.9% of 164 students.³ Another research in 2014, preclinical students at the Faculty of Medicine, Udayana University, as many as 26.3% experienced anxiety disorders.⁴

Mental disorder that is closely related to anxiety is insomnia. Insomnia is a sleep disorder characterized by the inability to start or maintain sleep at least three times a week for one month.⁵



A research conducted by Dasheni S. and Lely S. at Udayana University in 2017 found that the prevalence of insomnia among the medical students was 56% of the total of 50 students suffering from moderate clinical insomnia and 4% of students suffering from severe clinical insomnia.⁶

Weight gain is one of the causes of psychological problems such as anxiety disorders, depression, and social withdrawal due to their weight problems. Nutritional status can be assessed by weight and height that are usually calculated in the Body Mass Index / BMI.⁷

Obesity is also known to be related to insomnia. A research conducted at Hasanuddin University in 2018 found 54.76% or 23 out of 42 research subjects with obesity experienced insomnia, whereas in non-obese research subjects only 40.65% experienced insomnia. In the study, data processing was performed, with the result that obesity was 1.8 times more at risk for insomnia compared to non-obese people.⁸

Based on the explanation about anxiety and insomnia, the researcher is interested to study and wants to raise a problem regarding the different levels of anxiety and insomnia experienced by obese and non-obese students Class of 2016 of the Faculty of Medicine, Diponegoro University.

METHODS

This research was conducted in the campus of the Faculty of Medicine, Diponegoro University, Semarang, Central Java, which was conducted in April 2019. The type of this research was an observational analytic study with cross-sectional design. This research studied the differences between variables, namely between anxiety and insomnia levels with obesity status. Measurements were done once at a time for the dependent and independent variables that met the inclusion criteria, which are, class of 2016 students enrolled as active students, female aged 17-25 years, and agreed to become research respondents. The research sample was taken using total sampling.

The data used in this study are primary data, where respondents were asked to fill in the Zung self-rating Anxiety Scale (ZSAS) questionnaire to measure anxiety levels and the Insomnia Severity Index (ISI) questionnaire to measure insomnia levels.

Data processing was done by a computer system with univariate and bivariate analysis. The analysis was tested using the Chi Square (χ^2) test. However, if there were cells with expected count values <5 , an alternative Fisher Exact test was used.



RESULT

General Characteristics of Respondents

General characteristics of respondents are shown in the following table.

Tabel 1. Characteristics of Respondents

General Characteristics	Obese	Non Obese
Frequency	21 (17.2%)	101 (82.8%)
Residence Status		
Boarding house	14 (66,7%)	74 (73,3%)
Parent's house	4 (19,0%)	27 (26,7%)
Relative's house	2 (9,5%)	0 (0,0%)
Others	1 (4,8%)	0 (0,0%)
Residence in Semarang		
Friend	0 (0,0%)	3 (3,0%)
Alone	14 (66,7%)	72 (71,3%)
Parents	3 (14,3%)	24 (23,7%)
Relatives	2 (9,5%)	1 (1,0%)
Others	2 (9,5%)	1 (1,0%)
Ages		
19 years old	2 (9,5%)	7 (6,9%)
20 years old	13 (61,9%)	40 (39,6%)
21 years old	5 (23,8%)	50 (49,5%)
22 years old	1 (4,8%)	4 (4,0%)

Differences in Anxiety Levels between Obese and Non-Obese.

The analysis results of differences in anxiety levels between obese and non-obese can be seen in the following table.



Tabel 2. Differences in Anxiety Levels between Obese and Non-Obese

Zung Self-rating Anxiety Scale (ZSAS)	Obese	Non-Obese	p*
Normal	19 (90,5%)	97 (96,0%)	0.275
Mild-Moderate Anxiety	2 (9,5%)	4 (4,0%)	

* The statistical difference in the Fisher's Exact test was significant ($p < 0.05$)

In the table, the significance value of the Fisher's Exact test results was 0.275. Due to $p > 0.05$, it can be concluded that there was no significant difference in anxiety level between obese and non-obese.

Difference in Insomnia Level between Obese and Non-Obese.

The analysis results of differences in insomnia levels between obese and non-obese can be seen in the following table.

Tabel 3. Difference in Insomnia Level between Obese and Non-Obese

Insomnia Severity Index (ISI)	Obese	Non-Obese	p*
No insomnia	11 (9.0%)	66 (54.1%)	0.475
Subthreshold insomnia	7 (5.7%)	28 (23%)	
Moderate clinical insomnia	3 (2.5%)	6 (4.9%)	
Severe clinical insomnia	0 (0.0%)	1 (0.8%)	

* The difference was statistically significant with the Chi-Square test ($p < 0.05$)

In the table, the significance value of the Chi-square test results showed 0.475. Due to $p > 0.05$, it can be concluded that there was no significant difference in insomnia level between obese and non-obese.

DISCUSSION

Based on the results of this study, it is known that there was no significant difference in anxiety level between obese and non-obese. Most respondents in this study had normal anxiety levels, both obese and non-obese. Only 2 obese people (9.5%) and 4 non-obese people (3.9%) who suffered mild-moderate anxiety. This is



inconsistent with the hypothesis proposed by the researchers, which said that there should be a difference in anxiety levels between obese and non-obese. Anxiety is influenced by several factors such as biological factors, psychological factors, and social environmental factors.⁹ This emphasizes that it is not only environmental factors that influence the anxiety experienced by a person, in terms of changes in body posture but also biological, psychological, and social factors. Anxiety should be more common in obese than non-obese. As a result of their obese condition, they will feel uncomfortable about themselves. Therefore, female feel less satisfied and less confident about their appearance. This dissatisfaction which can cause anxiety.¹⁰

In this research, there was no significant difference in anxiety level between obese and non-obese. This can occur because the anxiety experienced by obese and non-obese respondents is a temporary anxiety which arises as a result if someone facing certain situations. If individuals are able to adapt well they will be able to adapt to the environment, both physical, psychological, and social adjustments.^{11,12} One of the things that can affect the adjustment is the level of emotional maturity by looking at the age of

the individual. Individuals whose emotions are mature can recognize their weaknesses and strengths. And also the activities on campus are very diverse and they can choose their activities according to their interests, so that obese and non-obese respondents do not experience anxiety. In addition, the mismatch of research results with the hypothesis can occur because of inaccuracies in the selection and use of questionnaires in research. Because the questions in the questionnaire level of anxiety have not shown questions about obesity. So the results obtained have not been able to show significant relationships or differences.

In terms of insomnia level there is no significant difference between obese and non-obese. Based on this study, it was found that the majority of respondents both obese and non-obese did not experience insomnia. Only 7 obese people (52.4%) and 28 non-obese people (27.7%) experienced subthreshold insomnia. While there are 3 obese people (14.3%) and 6 non-obese people (5.9%) who experience moderate insomnia. And there is only 1 non-obese person (1.0%) who experience severe insomnia. Insomnia itself is influenced by several factors such as social, environmental, toxin, medical, and psychological conditions.¹³ This emphasizes



that it is not only environmental factors that influence the incidence of insomnia experienced by a person, but also social factors, toxins, medical conditions, and psychological conditions. Insomnia in obese should be more common than non obese. In obese individuals often arise both physical and psychological pressure due to the influence of social factors. This can cause psychological disorders that can interfere with sleep quality, causing insomnia.

In this research, there was no significant difference in insomnia level between obese and non-obese. This is caused by the ability of obese and non-obese respondents to be able to control their emotions and psychology. In addition to environmental factors, insomnia can also be caused by social factors such as education. Research respondents in this study were final-year medical students who have 23 SCU (Semester Credit Units) and final scientific writing in the 6th and 7th semester, "Kuliah Kerja Nyata" at the end of 6th semester, and the pre-coass in the 7th semester causing the research respondents to have risk of experiencing anxiety which can cause insomnia. That factor was not controlled in this research, so that those factors can affect the accuracy of this study. In addition, the assessment carried out in this study only used questionnaires or non-

invasive tools so that it created uncertainty about the results obtained.

This research still has several weaknesses, including limited time in conducting this research. In addition, mismatches in the selection and use of the anxiety and insomnia questionnaire.

CONCLUSION AND SUGGESTION

Conclusion

The anxiety level in the majority of obese and non-obese students were in the normal category. Insomnia levels in the majority of obese and non-obese students were in the category of no insomnia. There was no significant difference between obese and non-obese students in terms of anxiety levels based on the ZSAS scale and insomnia levels based on the ISI scale.

Suggestion

Need to choose and use the right and appropriate questionnaire in the study of anxiety and insomnia levels in obese respondents.

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