

# **THESIS**

## **THE RELATIONSHIP BETWEEN STRESS LEVELS, EATING HABITS, AND HEMOGLOBIN LEVELS WITH THE INCIDENCE OF DYSMENORRHEA**

**(Observational Study on Female Students at Pesantren-Based University)**



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PONOROGO  
2025**

## APPROVAL SHEET

### APPROVAL SHEET THESIS DEFENCE

It is hereby stated that the thesis with the title:

**THE RELATIONSHIP BETWEEN STRESS LEVELS,  
EATING HABITS, AND HEMOGLOBIN LEVELS  
WITH THE INCIDENCE OF DYSMENORRHEA**

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It has been reviewed and recommended to meet scientific standards, in terms of both scope and quality.

It has been approved to presented on: 26<sup>th</sup> February 2025

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## VALIDITY SHEET

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It is hereby stated that the thesis with the title:

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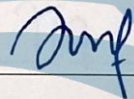
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## ABSTRACT

### THE RELATIONSHIP BETWEEN STRESS LEVELS, EATING HABITS, AND HEMOGLOBIN LEVELS WITH THE INCIDENCE OF DYSMENORRHEA

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Women of all ages, from adolescence to adulthood, typically go through menstrual periods. During menstruation woman often face various discomforts, one of which is dysmenorrhea. Several factors contribute to the dysmenorrhea incidence, including stress levels, eating habits, and hemoglobin levels. Dysmenorrhea can lead to reduced blood flow; the lower a woman's hemoglobin levels, the more susceptible to experiencing dysmenorrhea. Unhealthy eating habits, such as consuming foods that lack essential nutrients, can increase the severity of dysmenorrhea. Stress can also reduce the production of progesterone and alter prostaglandin synthesis, thus increasing the dysmenorrhea incidence. This study aims to analyze the relationship between stress levels, eating habits, and hemoglobin levels with dysmenorrhea incidence. The research type is observational analytic and the research design with a cross-sectional approach. The study sample consists of 100 female students from Universitas Darussalam Gontor, selected using purposive sampling. The instruments used include a stress level questionnaire (Depression Anxiety Stress Scale-42), eating habits (Semi Qualitative - Food Frequency Questionnaire), hemoglobin levels (EasyTouch Glucose, Cholesterol, and Hemoglobin), and a dysmenorrhea questionnaire (Numeric Rating Scale). Data analysis was conducted using the Spearman Test ( $p < 0,05$ ). The results show a significant relationship between stress levels ( $p = 0,001$ ), energy intake ( $p = 0,011$ ), fat intake ( $p = 0,001$ ), and hemoglobin levels ( $p = 0,001$ ) with the incidence of dysmenorrhea. However, no significant relationship between protein intake ( $p = 0,996$ ) and carbohydrate intake ( $p = 0,184$ ) with the incidence of dysmenorrhea. This study concludes that there is a relationship between stress levels, energy and fat intake, hemoglobin levels, dysmenorrhea incidence. No relationship between protein and carbohydrate intake and dysmenorrhea incidence.

Keywords: Eating habits, dysmenorrhea, hemoglobin levels, stress levels

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## ABSTRAK

### HUBUNGAN TINGKAT STRES, KEBIASAAN MAKAN DAN KADAR HEMOGLOBIN DENGAN KEJADIAN *DISMENOREA*

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Wanita dari usia remaja hingga dewasa fitrahnya akan mengalami menstruasi. Pada saat menstruasi, wanita dapat mengalami suatu masalah, salah satunya *dismenorea*. Faktor penyebab terjadinya *dismenorea*, yaitu tingkat stres, kebiasaan makan dan kadar hemoglobin. Kejadian *dismenorea* dapat mengakibatkan penurunan aliran darah, semakin rendah kadar hemoglobin pada wanita maka semakin mudah mengalami *dismenorea*. Kebiasaan makan yang tidak sehat seperti mengonsumsi makanan yang kurang gizi dapat meningkatkan derajat keparahan *dismenorea*. Stres juga dapat menurunkan produksi sekresi progesteron dan mengubah sintesis prostaglandin, sehingga dapat meningkatkan kejadian *dismenorea*. Penelitian ini bertujuan untuk menganalisis hubungan antara tingkat stres, kebiasaan makan dan kadar hemoglobin dengan kejadian *dismenorea*. Jenis penelitian ini menggunakan observasional analitik dan desain penelitian dengan pendekatan *cross-sectional*. Sampel penelitian mahasiswa Universitas Darussalam Gontor sebanyak 100 responden menggunakan teknik *purposive sampling*. Instrumen yang digunakan kuesioner tingkat stres (*Depression Anxiety Stress Scale-42*), kebiasaan makan (*Semi Qualitative - Food Frequency Questionnaire*), kadar hemoglobin (*EasyTouch Glucose, Cholesterol, and Hemoglobin*) dan kuesioner *dismenorea* (*Numeric Rating Scale*). Analisis data menggunakan Uji Spearman ( $p < 0,05$ ). Hasil penelitian terdapat hubungan antara tingkat stres ( $p = 0,001$ ), asupan energi ( $p = 0,011$ ), asupan lemak ( $p = 0,001$ ) dan kadar hemoglobin ( $p = 0,001$ ) dengan kejadian *dismenorea*. Tidak terdapat hubungan antara asupan protein ( $p = 0,996$ ) dan karbohidrat ( $p = 0,184$ ) dengan kejadian *dismenorea*. Penelitian ini dapat disimpulkan bahwa terdapat hubungan antara tingkat stres, kebiasaan makan asupan energi dan lemak dan kadar hemoglobin dengan kejadian *dismenorea* serta tidak terdapat hubungan asupan protein dan asupan karbohidrat dengan kejadian *dismenorea*.

Kata kunci: Kebiasaan makan, *dismenorea*, kadar hemoglobin, tingkat stres

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The author acknowledges that this thesis is still far from perfect, therefore, I welcome suggestions and critiques so that this final thesis can be beneficial to all of us.

Ponorogo, 23<sup>th</sup> February 2025



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## STATEMENT OF RESEARCH AUTHENTICITY

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Dysmenorrhea.

I sincerely declare that the research contained in this thesis is my own work and does not belong to anyone else. This thesis has never been published before, except for some parts with original references.

If in the future it is found that this work is plagiarism, I am ready to be given administrative and academic sanctions.

Ponorogo, March 26, 2025

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