

The Prevalence of Adolescent Anaemia and Its Risk Factors among Students in Islamic Boarding School

THESIS



Author:

Bagus Adjie Dwi Hendrarto

011911133086

**FACULTY OF MEDICINE
UNIVERSITAS AIRLANGGA
SURABAYA
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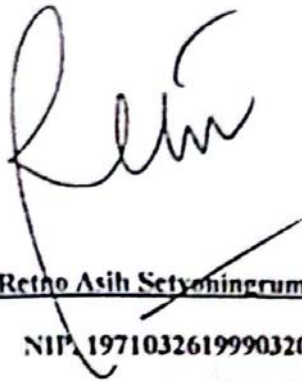
LETTER OF AGREEMENT

This research has been approved for testing on.

Date: 7th December, 2022

Supervisor 1

Supervisor 2



Dr. dr. Retno Asih Setyaningrum, SpA(K)

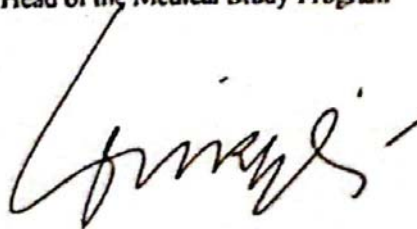
NIP. 197103261999032001



Dr. dr. Yetti Hernaningsih, SpPK(K)

NIP. 197312202005012001

Acknowledged by,
Head of the Medical Study Program



(Dr. Purwo Sri Releki, dr., M.Kes)

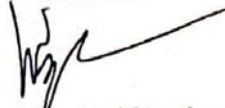
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Submitted as One of the Requirements to Complete the Program
Medical Studies at the Faculty of Medicine
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Author:

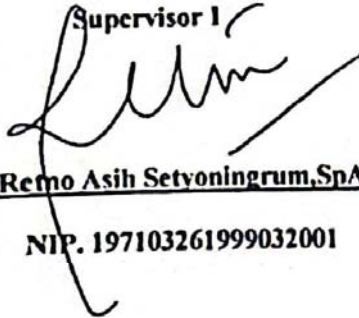


Bagus Adhie Dwi Hendrarto

011911133086

Agreed by,

Supervisor 1



Dr. dr. Retno Asih Setyoningrum, SpA(K)

NIP. 197103261999032001

Supervisor 2



Dr. dr. Yetti Hermaningsih, SpPK(K)

NIP. 197312202005012001

**FACULTY OF MEDICINE
UNIVERSITAS AIRLANGGA
SURABAYA**

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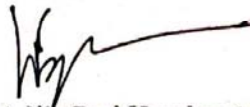
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Author:



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011911133086

Approved and accepted after being tested by
Medical Study Program examiner team
Faculty of Medicine, Airlangga University
Surabaya, *29 December 2022*

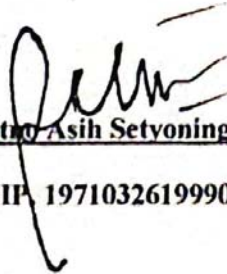
Agreed by,
Lead Examiner



Dr. dr. Puspa Wardhani, SpPK(K)

NIP. 197502252006042001

Supervisor I



Dr. dr. Retno Asih Setyoningrum, SpA(K)

NIP. 197103261999032001

Supervisor 2



Dr. dr. Yetti Hernaningsih, SpPK(K)

NIP. 197312202005012001

STATEMENT OF ORIGINALITY

The undersigned, I:

Name : Bagus Adjie
NIM : 011911133086
Study program : Medical Program
Faculty : Medicine
Stage : Bachelor

Stating that I have not committed plagiarism in the writing of my thesis entitled:

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If one day it is proven to have committed plagiarism, then I will receive the sanctions that have been set.

Thus this statement letter I made in real terms.

Surabaya, 28 December 2022


Bagus Adjie

NIM. 011911133086



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Praise and Gratitude for His mercy to God Almighty, Allah SWT., Because for all the blessings and help I can finish this thesis. The researcher's gratitude goes to all parties who always support and provide direction and encouragement to me during the process of making this script. I convey my thanks to:

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Hopefully all the goodness given by the parties mentioned above will be rewarded with kindness as well. Amen.

Surabaya, 10 November 2022

Author / Researcher

SUMMARY

The prevalence of anemia among adolescents in Islamic boarding schools varies from place to place and tends to be higher than the national prevalence of anemia in Indonesia. Risk factors also vary from study to study. By knowing the prevalence of adolescent anemia among students and determining significant risk factors, especially in Islamic boarding schools such as Kramat Islamic Boarding School and Ar-Rohmany Al-Ishaqy Islamic Boarding School, to be able to make preventive procedures in managing/treating students.

The research was an observational study with a cross-sectional design with an descriptive analytic approach. The research instrument to be used was a questionnaire containing questions regarding Students personal information, and also data on weight and height measurements, and the complete blood count that were carried out. The collected data would be divided based on research variables and formed into a frequency distribution table. The data then was analysed descriptively and from analysis, prevalence, p-value and OR was acquired and the research result would be considered “meaningful” if $P < 0.05$.

The prevalence rate of anaemia among students was 17.5%. Based on multiple regression logistic statistical test, there were found that nutrition status (p value = $< 0,01$, OR = 7,2), age (p value = 0,03, OR = 9.8) and gender (p value = 0,01, OR = 4.1) were have correlation together with the incidence of adolescent anaemia in Islamic boarding school. all of the anaemia cases were from microcytic anaemia because all of the students that had anaemia have MCV below 80 fL. The average MCV and MCH were lower than normal, at 76 fL and 26.7 pg, showing signs of IDA.

The prevalence rate of anaemia among students in the Islamic boarding school is 17.5%. The anaemia is Microcytic Hypochromic with most of them are Anisocytosis. There is a correlation between nutrition status, age, and type of gender and adolescent anaemia among Islamic boarding school students.

ABSTRACT

Background: The prevalence and risk factors of anaemia among adolescents in Islamic boarding schools varies from place to place and tends to be higher than the national prevalence of anaemia in Indonesia. By knowing the prevalence of adolescent anaemia among students in Islamic boarding schools and determining significant risk factors, we can know the prevalence and the correlated risk factors make preventive procedures in managing/treating students.

Objective: the prevalence and the risk factors of anaemia in Islamic boarding school.

Methods: The research was an observational analytic descriptive study with a cross-sectional design. The research instrument to be used are questionnaire to gather information such as the student's age, gender, and length of stay, data on weight and height measurements, and haemoglobin levels from complete blood count. The collected data would be divided based on research variables and formed into a frequency distribution table. The data was analysed descriptively and statistically. From analysis, Prevalence, p-value, and OR was acquired and the research result would be considered “meaningful” if $P < 0.05$.

Result: the prevalence of adolescent anaemia was 17.5%. It was found that nutrition status (p value = $< 0,01$), age (p value = 0,03) and Gender (p value = 0,01) have correlation together with the incidence of adolescent anaemia in Islamic boarding school. Only duration of stay that has no significant correlation (p value = 0.1).

Conclusion: the prevalence was 17.5%. Nutrition status, age, and gender have correlation together with the incidence of adolescent anaemia in Islamic boarding school.

Keywords: anaemia, Islamic boarding school, prevalence, adolescent, risk factor

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LIST OF ABBREVIATIONS

Hb	: Haemoglobin
RBC	: Red Blood Cell
WHO	: World Health Organization
IDA	: Iron Deficiency Anaemia
SMA	: Sekolah Menengah Atas / Highschool
HIV	: Human Immuno-deficiency Virus
CBC	: Complete Blood Count
EDTA	: Ethylene Diamine Tetra-acetic Acid
WBC	: White Blood Cell
CDC	: Centers for Disease Control and prevention
SPSS	: Statistical Package for the Social Sciences
OR	: Odds ratio
CI	: Confidence interval
MCV	: Mean corpuscular volume
HCT	: Haematocrit
AI	: Anaemia of Inflammation
BMI	: Body Mass Index
RDW	: Red cell Distribution Width