

ASYMPTOMATIC *PLASMODIUM FALCIPARUM* INFECTIONS RATES, ANEMIAS,
AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING
ANTENATAL CARE, MSAMBWENI HOSPITAL, KWALE COUNTY, KENYA.

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A THESIS SUBMITTED TO THE SCHOOL OF APPLIED AND HEALTH SCIENCES
IN THE DEPARTMENT OF MEDICAL SCIENCES IN PARTIAL FULFUFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF
SCIENCE IN MEDICAL PARASITOLOGY AND VECTOR BIOLOGY OF
TECHNICAL UNIVERSITY OF MOMBASA.

2023

DECLARATION

This thesis report is my original work and has not been presented for a degree award in any other university.

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ACKNOWLEDGEMENT

I have thoroughly enjoyed undertaking this research project and am indebted to many people who helped make it happen. I am very grateful to the Department of Health, Kwale County, for partially supporting this work by providing reagents, slides, and hemoglobin cuvettes, among others. I have enjoyed to work with my colleagues for their meticulous microscopy at Msambweni Vector Borne Neglected Tropical Diseases Laboratory. Many thanks to all Maternal and Child Health Department Nurses for being the driving force behind my data collection. I am grateful to Dr. Mark Obonyo for his excellent statistics advice and teaching of statistics throughout the fellowship cohort 13 in the MSc in Field epidemiology and laboratory program, which I have thoroughly enjoyed. I am gracious to Dr. Jimmy Kihara, for his motivation during course work at TUM, when he encouraged us to write concept papers before we finished our course work, who later became my supervisor? I am thankful for Dr. Jeza Tunje, who provided leadership and his invaluable guidance, integrity, and encouragement towards academic insights, suggestions, and research creativity, without which I would not have achieved this success. I am also grateful to my fellow MSc students who were there for me whenever I needed them. Lastly, but not least, I wish to thank all the study participants for accepting to be part of this exciting study.

DEDICATION

This thesis is dedicated to my wife Jacintah Mueni, my daughter Agnes Kabura and sons Thierry Nyamu and Brian Mwenda for their love, understanding, and support during the study process.

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ABBREVIATIONS

AiP	Anemia in Pregnancy
API	Asymptomatic <i>Plasmodium</i> Infections
ANC	Antenatal care
aOR	Adjusted odds ratio
CI	Confidence Interval
ERC	Ethical Review Committee
Hb	Hemoglobin
IPTp	Intermittent Preventive Treatment in Pregnancy
LBW	Low Birth Weight
LLITNs	Long Lasting Insecticide Treated Nets
MCH	Maternal Child Health
MCRH	Msambweni County Referral Hospital
MDGs	Millennium Development Goals
MiP	Malaria in Pregnancy
MOH	Ministry of Health
MS	Microsoft
MSc	Masters of Science
PRO	Prevalence Odds Ratio
P-Value	Probability Value
QC	Quality Control

SSA	sub-Saharan Africa
UNICEF	United Nations Children's Fund
VBDCU	Vector Borne Disease Control Unit
WHO	World Health Organization

DEFINITION OF TERMS

Antenatal Care:	Describes the expert services provided to expectant mothers to advance and preserve the wellbeing of the mother and the unborn child until the safe delivery of a well-developed and healthy child.
Asymptomatic <i>Plasmodium</i> Infections:	Refers to the presence of the asexual blood stage of a <i>Plasmodium</i> species in the peripheral blood without any observable clinical symptoms of malaria.
Anemia:	Among pregnant women attending their first antenatal care (ANC) visit at the hospital, a significant number had hemoglobin levels below 11 g/dl, indicating the presence of mild (10-10.9 g/dl), moderate (7-9.9 g/dl), or severe (below 7 g/dl) anemia
Low Birth Weight:	less than 2,500 grams at birth
Maternal:	Relating to the Pregnancy

ABSTRACT

Background: In Kenya, the prevalence of asymptomatic *Plasmodium* infections (API) among pregnant women ranges from 9% to 18%. This study aimed to evaluate the prevalence and risk factors associated with API and anemia in pregnant women who were receiving their first prenatal care.

Methods: This cross-sectional survey enrolled pregnant women who attended prenatal care at Msambweni County Referral Hospital (MCRH) from September 2018 to February 2019. Various variables, including maternal age, obstetric history, bed net ownership and usage, soil consumption, hemoglobin levels, and malaria status, were collected. Data analysis was performed using Epi Info 7. Descriptive analysis was conducted to compare the cases of asymptomatic Plasmodium infections (API) and anemia with those who did not have either condition. Chi-square test was used to assess associations, calculate prevalence odds ratios (POR), and determine their 95% confidence intervals (CI) to identify factors associated with API and anemia

Results: A total of 308 pregnant women participated in this study, with a mean age of 26.6 years and a standard deviation (SD) of 5.8 for gestational age. Among the participants, 62.7% had anemia and 12.9% had asymptomatic *Plasmodium* infections (API). Younger age was independently associated with having API compared to those aged 20 years and older (chi-square = 12.03, P-value = 0.02, adjusted prevalence odds ratio [aPOR] = 4.5, 95% confidence interval [CI] = 1.71-12.01). Anemia in pregnancy (AiP) was independently associated with a gestational age of 16 weeks (chi-square = 14.9, P-value = 0.002), with an aPOR of 3.3 (95% CI: 1.72-6.41), and with individuals reporting soil ingestion (chi-square = 9.30, P-value = 0.02, aPOR = 2.0, 95% CI: 1.21-3.41). Those with API were three times more likely to have anemia compared to those without API (aPOR = 3.5, 95% CI: 1.21-8.60, chi-square = 8.10, P-value = 0.001).

Conclusion: Anemia in pregnancy (AiP) was found to be associated with women who reported consuming soil, while asymptomatic Plasmodium infections (API) were linked to younger women with a gestational age greater than 16 weeks. These are common conditions that often affect pregnant women. It is recommended to conduct regular early malaria screening and implement prophylactic measures for women with AiP.