

UNIVERSITI TEKNOLOGI MARA

**THE RELATIONSHIP BETWEEN MATERNAL ANAEMIA AND
HOUSEHOLD FOOD SECURITY STATUS AMONG PREGNANT
WOMEN IN SELANGOR, MALAYSIA.**

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Abstract

Introduction: Maternal anaemia remains a significant public health concern in Malaysia and globally, particularly among food-insecure populations. Maternal anaemia is regarded as a chronic public hazard in low- and middle-income populations and a public concern because of the increased risk of unfavourable maternal and newborn outcomes.

Methods: A cross-sectional study was carried out among pregnant women attending government health clinics in Selangor, Malaysia. A structured questionnaire was used to gather information on sociodemographic characteristics, household food security status using the Food Insecurity Experience Scale (FIES), and nutritional status indicators. Anaemia status was extracted from antenatal health records based on haemoglobin (Hb) levels. Data were analysed using SPSS Version 29, employing descriptive statistics, Chi-square tests, and binary logistic regression to examine the relationships between maternal anaemia and the selected variables.

Results: 226 respondents were recruited for this study. The prevalence of maternal anaemia was 58.8%. Food insecurity was reported by 62.4% of respondents. Although no significant association was found between anaemia and food security ($p = 0.291$), logistic regression revealed maternal ethnicity and religion as significant predictors of anaemia ($p < 0.05$). Other factors, such as income, MUAC and occupation, showed trends but were not statistically significant.

Conclusion: Maternal anaemia is prevalent among pregnant women in Selangor, especially in food-insecure and socioeconomically disadvantaged households. Interventions should target ethnic and religious disparities, improve access to prenatal care and integrate MUAC screening to mitigate the risk of anaemia.

Keywords: maternal anaemia, food insecurity, MUAC, pregnancy, predictors, Malaysia

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Chapter 1 Introduction

1.1 Research Background

Anaemia is a prevalent nutrition-related deficiency affecting the global population, particularly among pregnant women. The condition includes decreased red blood cells or hemoglobin content and has serious consequences for maternal and foetal health. It is estimated that anaemia will be responsible for over 115,000 maternal deaths and 591,000 prenatal deaths annually around the world (Kejela et al., 2020). Iron is an essential component required to enhance erythropoiesis and plasma volume expansion during the second and third trimesters of pregnancy, including placental and foetal growth (Ataide et al., 2023). Many pregnant women, particularly in low and middle-income countries (LMICs), do not meet these higher nutrient requirements due to dietary deficiencies and prevalent illnesses. Iron deficiency anaemia (IDA) is a prevalent cause of anaemia in pregnancy. The prevalence of anaemia in women, especially pregnant women, varied from 19.3% to 57.4%, whereas iron deficiency anaemia ranged from 31.6% to 34.6%. (Abd Rahman et al., 2022). Maternal anaemia has far-reaching repercussions for health, including preterm birth, low birth weight and increased risk of maternal death during delivery. More severe forms of anaemia in pregnancy cause poor foetal growth, increasing the risk of newborn death. Maternal anaemia is regarded as a chronic public hazard in LMICs and a public concern because of the increased risk of unfavourable maternal and newborn outcomes (Kabir et al., 2022).

Household food security status is defined as the capacity of a household to obtain an adequate supply of secure, nutritious and sufficient food to satisfy their daily dietary requirements (Ejiohuo et al., 2024). The Food and Agriculture Organisation (FAO) defines food security as the right to access food in all its forms, including physical, economic and social. Food insecurity is associated with restricted dietary diversity and inadequate intake of essential nutrients, including macronutrients and micronutrients such