

MED/OP/04

Prevalence, Associated Factors, and Neonatal Complications of Anaemia among Pregnant Women in Kandy District, Sri Lanka: An Analytical Cross-Sectional Study.

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Background: Anaemia in pregnancy is a significant health burden in Sri Lanka, with serious maternal and neonatal risks.

Objective: To explore the prevalence, risk factors, and neonatal anthropometric outcomes of anaemia among pregnant women from Kandy district, Sri Lanka.

Method: The study was conducted in four randomly selected hospitals out of the six hospitals above the base hospital level in Kandy District. Pregnant women admitted in July 2024 were recruited by consecutive sampling until a minimal sample size of 179 participants was reached. An investigator-administered questionnaire in native languages on demographics, nutrition, medical history, and neonatal outcomes was used. Anaemia status was assessed using haemoglobin levels from pregnancy and hospital records. Informed, written consent was obtained from all participants or guardians before data collection.

Results: The sample of 200 participants was aged 18 to 43 years, with 34.5% primigravida and 41% in second gravidity. Highest educational levels achieved were grade 11–12(32%), advanced level (50%), and bachelors (8%). Most participants were housewives (73%), followed by office-workers (10.5%) and teachers (5.5%). Mean first-trimester(T_1) haemoglobin was 11.5 g dL^{-1} ($SD=1.7$) and third-trimester(T_3) haemoglobin was 12 g dL^{-1} . The prevalence of pre-existing anaemia ($Hb < 11 \text{ g dL}^{-1}$) and anaemia in third ($Hb < 10.5 \text{ g dL}^{-1}$) was 28.1% ($n=52$, 95% CI=21.6–34.6) and 12.9% ($n=19$, 95% CI=7.5–18.3). Adding lime to green-leafy vegetables ($OR=0.272$, 95% CI=0.082–0.899, $p=0.033$) decreased, while adding tomato to green-leafy vegetables ($OR=2.990$, 95% CI=1.007–8.874, $p=0.048$) increased the risk of anaemia. Pre-existing anaemia was not significantly associated with birth weight (ANOVA $F(60, 124) = 1.375$, $p=0.070$), low birth weight ($\chi^2=0.236$, $p=0.627$), or newborn length ($F(60, 124) = 1.002$, $p=0.485$). Similarly, T_1 haemoglobin ($F(60, 124) = 1.014$, $p=0.465$) and T_3 haemoglobin ($F(38, 108) = 1.063$, $p=0.393$) were not associated with occipitofrontal circumference.

Conclusion: First-trimester anaemia was linked to specific dietary factors, which could inform public health and nutrition programmes aimed at preventing maternal anaemia. However, it showed no significant association with newborn birth-weight, length, or occipitofrontal circumference.

Keywords: Anaemia in pregnancy, Neonatal complications