



ABSTRACT

## Comparison of correlation between protein and iron intake with hemoglobin levels in children age 6-23 and 24-36 months during COVID-19 pandemic in east Jakarta

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**Background and objectives :** Anemia prevalence, especially iron deficiency anemia, among Indonesian toddlers is high. Iron deficiency may interfere nerve development and also cause immune problems. Protein malnutrition may also cause anemia. The prevalence is higher in 6-23 months age group due to the increase need. However, the correlations between iron and protein intake with hemoglobin levels are still showing different results and researches don't compare the correlation between age groups.

**Method:** This is an analytic-observational research using secondary data taken from Kampung Melayu, East Jakarta. Data obtained using cross-sectional method with total sampling technique, using inclusion criteria of complete data, informed consent, correct age group, and exclusion criteria of chronic disease, malaria, and incomplete data. Bivariate analysis done using Pearson (normal data distribution) or Spearman (data not distributed normally) in SPSS.

**Results:** A total of 97 (6-23 months) and 82 subjects (24-36 months) was recruited. No significant statistical difference was found for the demographic criteria, except for sick frequency ( $p=0,003$ ). The protein and iron intake are higher in 24-36 months age. Protein intake correlates positively with hemoglobin levels in 6-23 months age ( $r=0,428$ ) and 24-36 months age ( $r=0,262$ ) and the statistical difference is significant. Iron intake correlates with hemoglobin levels in 6-23 months age ( $r=0,555$ ) and 24-36 months age ( $r=0,253$ ) and the statistical difference is significant.

**Conclusion:** Correlation coefficient between iron intake and protein intake with hemoglobin levels is higher in the 6-23 months age. Adequate complementary feeding intervention is needed and nutrition fulfilment must be given in children age 6-36 months, especially 6-23 months age group.

**Keywords:** Protein, Iron, Anemia, Children, Age 6-23 Months, Hemoglobin Levels, COVID-19, COVID-19 Pandemic

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