



# DAILY VERSUS WEEKLY IRON SUPPLEMENTATION AMONG CHILDREN IN PREVENTION AND TREATMENT OF IRON DEFICIENCY ANEMIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

**Patrizia Jin J. Maclan, MD**  
Primary Investigator

**Michael M. Resurreccion, MD, FPPS**  
Supervising Investigator

## BACKGROUND

Iron deficiency anemia is the leading cause of anemia among children. IDA has negative effects in development of infants and children. IDA in children with many poor outcomes. Standard iron supplementation was deemed ineffective despite being implemented worldwide due to its poor compliance, efficacy and safety. Various strategies have been investigated for its potential in reduction of anemia

## OBJECTIVES

To assess the effect of weekly iron supplementation as compared to daily iron supplementation from birth to 19 years of age in the prevention and treatment of iron deficiency anemia.

## METHODS

We searched electronic databases and other sources for randomized controlled trials comparing daily versus weekly iron supplementation in children aged less than 19 years. We combined the data using random effects meta-analysis.

## RESULTS

We identified 2099 studies. Thirty-eight full text papers were reviewed for inclusion. Eight studies with a total of 7089 children were included in analysis. Hemoglobin concentration of the daily iron group has a mean of 12.42 g/dL (95% CI, 12.06,12.77) and weekly iron group has mean of 12.19 g/dL (95% CI 11.68,12.70) while the control group has a mean of 11.89 g/dL (95% CI 11.26,12.52). There is no difference in serum ferritin between the daily iron and weekly iron group at the end of the intervention. The risk of anemia is lower in the daily iron group compared to the weekly iron group. Safety data were limited but adverse effects were reported among daily group treatment.

## CONCLUSION

Our analysis suggests that that long term weekly iron supplementation is as effective as the daily iron supplementation group in prevention and treatment of iron deficiency anemia. The safety and excellent tolerance may lead to a better compliance and adherence among the children.