

## ABSTRACT

**Objective:** To demonstrate the effectiveness and social feasibility of weekly versus daily iron supplementation in preventing and treating iron deficiency anaemia among anaemic mothers. **Design:** A longitudinal in nature. **Setting:** Seven urban slum communities in Teklehaimanot Wereda, Addis Ababa, Ethiopia. **Subjects:** Two hundred seven eligible mothers were assigned to the daily supplementation, weekly supplementation or control groups following randomisation between March and May 2001. The daily supplemented groups (n=71) received 60 mg of elemental iron containing 300 mg ferrous sulphate and 400 µg folic acid from monday to friday. The weekly group (n=68) received one tablet once a week every monday supervised while the control group (n=68) was advised to take no medications without the knowledge of the investigators until the completion of the study. To eliminate a major source of variation, subjects participating in the study were de-wormed at the beginning of the study. **Main outcome measures:** Haemoglobin and serum ferritin concentrations were compared before and after the intervention among the groups. **Results:** The mean haemoglobin (Hgb), and serum ferritin concentration (SFC) at baseline were practically similar among the groups. Haemoglobin levels significantly increased at the end of the study in all the groups and the proportion of anaemia decreased from 6.9% to 1.6% in the daily, 6.7% to 1.7% in the weekly supplemented and 6.7% to 6.1% in the control groups. The difference noted between the daily and weekly supplemented groups was not significant. The improvement of SFC concentration was better in the daily than the weekly group but not statistically significant. Daily supplementation schedule caused more side effects and lower compliance level than the weekly supplementation schedule. **Conclusion:** Weekly supplementation is simple, comparable to daily supplementation and economically advantageous. Thus, it is recommended to adopt the strategy for controlling anaemia. Further because of higher compliance rate and lower side effects, it is deemed to be socially feasible.