

## Evaluation of Iron Supplementation Program Among Underfive Children in East Nusa Tenggara Indonesia

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### Abstrak

A study to investigate the effect of iron supplementation program among underfive children in North Central Timor, East Nusa Tenggara, Indonesia was conducted. The study was comprised into two parts: a cross-sectional study to investigate the impact of the ongoing government of Indonesia iron supplementation program and a intervention trial aiming to investigate the effect of daily compared to weekly iron supplementation. Hemoglobin, weight, height and compliance assessment were performed.

The cross-sectional study involved 127 underfive children from four health centers. The average of age, weight and height of the recruited subjects was 36.6 months, 10.4 kg and 84.5 cm respectively. The result of this study showed that the prevalence of anemia among 127 underfive children where iron supplementation program has been implemented was still high, (81.5%), although 75.6% of the subjects claimed to take all the iron syrup.

The intervention study recruited 160 preschool children and were divided into two groups: for 10 week one group received a daily supplement of 30 mg Fe, while the other group received 30 mg Fe per week. A complete data set was obtained from 75 children in the group supplemented daily and 73 children in the group supplemented weekly. The average age, weight and height of the subjects for daily group were 43.7 months, 12.1 kg and 91.0 cm respectively while 41.8 months, 11.7 kg and 90.3 cm for the weekly group.

The result of this study showed a significant hemoglobin increase in both groups ( $p < 0.001$ ) which reduced the prevalence of anemia from 42.3 to 7 % in daily group and from 55.9% to 27.9% in weekly group. Although the weekly group had higher compliance (100%) compared to daily group (42.1%), it is concluded that daily group resulted in a better effect in reducing anemia prevalence among the preschool children.