Background: The iron supplementation program is implemented in many countries for improving the iron status. However, this program is not always successfully reducing the prevalence of anemia due to the various factors.

Objective: To determined the success factors of iron supplementation program at the female school students.

Method: The program of iron supplementation at the school was run by the Health Office of Bekasi City. The pre-post design study was applied among junior and senior high school female students. The variables collected were age, health status, menstrual pattern, hand washing habit, body mass index, capsule compliance, and food consumption. The hemoglobin (Hb) was measured by cyanmethemoglobin method. The logistic regression was applied to analyses the determinant factors.

Results: The prevalence of anemia among female students was decreased by 3.4% after four month of supplementation. However, its result was different between the junior and senior high school students, in fact the prevalence of anemia at the junior students was increased. The number of students at the junior high school who decreased in haemoglobin and became anemia were more than the senior high
school. The logistic regression analyses showed that the success determinant of iron supplementation program were students not anemic before supplementation (OR = 10.81; 90% CI: 7.04-16.50) and they used to hand washing (OR = 11.22; 90% CI: 1.90-64.60).

**Conclusion:** After the iron supplementation program, the decrease prevalence of anemia was different between the junior and senior high school students. The determinants of success program were hand washing habits and the anemia status before supplementation.

**KEY WORDS** anemia, female students, iron supplementation, success determinant

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