THE EFFECTS OF VITAMIN C, ZINC ADMINISTRATION, AND HEALTH EDUCATION ON INCREASING HAEMOGLOBIN LEVEL AMONG FEMALE ADOLESCENTS IN KUPANG, EAST NUSA TENGGARA

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ABSTRACT

Background: Low haemoglobin concentration has been assumed to be associated with iron deficiency. Increasingly, however, the role of other nutritional and non-nutritional factors as predictors of haemoglobin is being recognized. This study aimed to examine the effects of health education and zinc administration on increasing haemoglobin level among girl adolescents in Kupang, East Nusa Tenggara.

Subjects and Method: A randomized controlled trial was carried out at Magepanda senior high school, Sikka, East Nusa Tenggara. A sample of 51 female adolescents was selected and randomly allocated into 3 groups: (1) vitamin C; (2) vitamin C combined with health education; and (3) vitamin C and Zinc. The dependent variable was haemoglobin level. The independent variable was an anti-anaemic intervention consisting of either: (1) vitamin C; (2) vitamin C combined with health education; and (3) vitamin C and Zinc. Haemoglobin level was measured by Cell-Dyn Emerald. The difference in mean haemoglobin between groups was compared and tested by One Way Anova followed by post hoc test.

Results: After intervention, mean of haemoglobin level in the vitamin C and Zinc group (Mean= 10.98; SD= 0.65) was higher than that in the vitamin C alone (Mean= 10.14; SD= 0.85), and it was statistically significant ($p= 0.011$). Likewise, mean of haemoglobin level in the vitamin C and Zinc group (Mean= 10.98; SD= 0.65) was higher than that in the vitamin C and health education (Mean= 10.54; SD= 0.79), and it was statistically significant ($p= 0.023$).

Conclusion: Zinc and vitamin is more effective to increase haemoglobin level than vitamin C alone or vitamin C combined with health education.

Keywords: hemoglobin, vitamin C, Zinc, health education, female adolescents

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