

The Effect of Purple Sweet Potato (*Ipomea Batatas*) on Increasing Hemoglobin Levels in Adolescent Girls

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ABSTRACT

Background: Adolescent girls are prone to anemia due to increased iron needs during growth and menstruation. Untreated anemia may lead to fatigue, decreased concentration, and reduced productivity. Purple sweet potatoes contain iron (4 mg/100 g), as well as vitamins A, C, and B complex that support hemoglobin formation. Vitamin C enhances iron absorption by converting Fe^{3+} to Fe^{2+} , which is more easily absorbed and then transported to the bone marrow to form heme that binds with globulin to become hemoglobin. ***Purpose:*** To determine the effect of purple sweet potato consumption on increasing hemoglobin levels in adolescent girls. ***Method:*** This was a pre-experimental study with a one-group pretest-posttest design. The research was conducted from March to May 2025 at MA Tahfidz Nurul Iman Karanganyar. A total of 20 adolescent girls were selected using purposive sampling based on hemoglobin levels <12 g/dL and not consuming iron supplements. The intervention involved consuming 100 grams of purple sweet potato daily for 7 days. Data were analyzed using a paired sample t-test. ***Results:*** The mean hemoglobin level increased from 9.23 g/dL to 12.28 g/dL. A p-value of $0.000 < 0.05$ indicated a significant effect of purple sweet potato consumption on increasing hemoglobin levels. ***Conclusion:*** Purple sweet potato consumption significantly increases hemoglobin levels in adolescent girls.

Keywords: Haemoglobin, adolescent girls, purple sweet potatoes