

ABSTRACT

THE EFFECT OF EDUCATION ON CONSUMPTION CHOICES OF SNACKS IN THE CANTEEN ON THE LEVEL OF KNOWLEDGE AND BLOOD GLUCOSE LEVELS OF HIGH SCHOOL STUDENTS

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Problem: *Adolescents are a population at risk of nutritional imbalance due to frequent consumption of snacks high in sugar and processed carbohydrates in school environments. Excessive intake of sweet foods and beverages can affect blood glucose levels, increase the risk of prediabetes and type 2 diabetes mellitus, and negatively impact academic performance. School canteens play a significant role as a source of snacks, but healthy food options remain limited.*

Objective: *This study aimed to determine the effect of guided snack choices in the school canteen on energy intake, carbohydrate intake, and blood glucose levels of students at SMA Negeri 1 Lawang.*

Methods: *This quantitative study employed a pre-experimental one-group pretest-posttest design. The sample consisted of 32 grade X students diagnosed with prediabetes or diabetes mellitus, selected through purposive sampling. The intervention involved guidance in selecting healthier snacks in the canteen, nutrition education using PowerPoint media, and follow-up guidance via WhatsApp for 7 days. Data collection included 24-hour food recall, anthropometric measurements, and blood glucose levels before and after the intervention. Data were analyzed using the Wilcoxon Signed Rank Test for energy intake, Paired Sample t-Test for carbohydrate intake, and Wilcoxon test for blood glucose levels, with a significance level of $\alpha = 0.05$.*

Results: *Before the intervention, most students were classified as prediabetic (90.6%) with severe carbohydrate intake deficits (65.6%). After the intervention, all students previously classified as diabetic were no longer identified, the number of prediabetic students decreased to 4 (12.5%), and students with normal blood glucose increased to 28 (87.5%). Statistical analysis revealed a significant effect of the intervention on energy intake ($p = 0.001$), carbohydrate intake ($p = 0.000$), and reduction of blood glucose levels ($p < 0.05$).*

Conclusion: *Guidance in selecting snacks in the school canteen significantly reduced energy intake, carbohydrate intake, and blood glucose levels among SMA Negeri 1 Lawang students.*

Recommendation: *Schools are encouraged to implement routine programs for guided healthy snack choices and increase the availability of nutritious snacks in canteens to prevent metabolic disorders in adolescents.*

Keywords: *nutrition education, school canteen, blood glucose levels, snack foods, adolescents*