The dietary patterns and prevalence of type 2 diabetes among different blood types in two rural populations of Kenya

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ABSTRACT

Introduction: Type 2 diabetes is a metabolic disorder that is primarily characterized by insulin resistance, relative insulin deficiency and hyperglycemia. The prevalence of type 2 diabetes was studied in different blood types and the risk diet factors among the different blood types determined.

Objective: To determine the prevalence of type 2 diabetes in the different blood types (A, AB, B and O).

Method: A total sample size of 302 was randomly selected from two Kenyan populations. Their fasting blood glucose level and two hour post-glucose load blood glucose were determined and recorded under blood types. The participants also made a 24- hour recall of their diet intake from which the protein, milk, PUFA, carbohydrate and meat intake estimates were correlated to fasting glucose level.

Results: There were more diabetic cases in blood type B among the Luo community (3.1% of N=32) followed by blood type A among the Kalenjins (2.0% of N=50) and then blood type O in both communities (Luo, 1.3% of N=77 and Kalenjin, 1.6% of N=64). There was a positive correlation between fat intake and diabetes in blood type B ($r=0.588$, $p= 0.000$) using the fasting plasma glucose level. There was a significant positive correlation in the amount of fish intake and diabetes in blood type AB ($r=0.841$, $p=0.036$). There was a significant positive correlation between meat intake and elevated fasting blood sugar level in blood type B($r=0.424$, $p= 0.016$).

Conclusion: Blood types A and O are at a higher risk of being diabetic due to the high cases of impaired glucose metabolism. People with blood type B are at a higher risk of developing diabetes type 2 if they consumed a lot of meat and fat. It is recommended therefore that they should manage their diet intake very closely to avoid foods that predispose them to elevated blood sugar levels.

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