

The Impact of Oral Multivitamin Supplementation on Oxidative Stress and Lipid Profile among Sudanese Patients with T2DM

Abd Elgadir A Altoum

Gulf Medical University, UAE

Aim: The objective of the current study was to assess the influence of oral multivitamins supplementation on some oxidative stress parameters (serum Vitamin A, C, E, Zinc, Malondialdehyde (MDA)) and lipid profile among Sudanese patients with type- 2 diabetes mellitus (T2DM).

Material And Method: Three hundred Sudanese patients with T2DM and Hundred healthy subjects (control group) were enrolled in this cross-sectional study. Blood was collected after overnight fasting for 10-12 hrs. Fasting plasma glucose (FBG), lipid profiles, Glycosylated haemoglobin (HbA1c%), Serum zinc, Malondialdehyde (MDA), Vitamins A, E, and C levels were measured using standardised laboratory techniques. Data was collected with the help of a structured questionnaire and direct interview.


Results: Biochemical parameters of the study population were shown a highly significant difference (P value < 0.05), between the means of serum vitamin A, C, E, Zinc, MDA, HbA1c, triglycerides, HDL, FBG, total cholesterol and LDL. Significant differences in serum vitamin A, C, E, Zinc, MDA, triglycerides, HDL and FBG between people with diabetes who used multivitamins and diabetics who did not use it (P-value < 0.05).

Conclusion: The study observed a significant increase in serum levels of vitamin A, C & E and other biomarkers parameters in patients with T2DM who take oral multivitamins supplements; such improvement may lead to minimising the diabetic complications. Further studies are needed to explore the possible therapeutic role of multivitamins supplements for T2DM patients.

Speaker Biography

Abdelgadir Elamin is an Assistant Professor in Medical Laboratory Sciences Program of College of Health Sciences, Gulf Medical University. He has more than 15 years of teaching and research experience and published several scientific papers in reputed journals. Education B.Sc. Medical Laboratory Sciences (Clinical Chemistry) from University of Science and Technology, Sudan in 2002. M.Sc. Clinical Chemistry from Sudan University for Sciences and Technology, Sudan in 2008. Ph.D. in Clinical Chemistry from University of Science and Technology, Sudan in 2015. Research Interests focus on Oxidative stress-induced risk factors associated with the metabolic syndrome Diabetes Cardiovascular Disorders and Antioxidant.

e: Dr.abdel@gmu.ac.ae

 Notes: