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Dietary patterns, physical activity and inflammatory biomarkers in patients with type 2 diabetes mellitus

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Background: A growing number of evidences suggest that inflammation might have a critical role in the pathogenesis of T2DM.

Objectives: the objective of this study was to investigate the effect of diet and exercise in improving inflammatory biomarkers in patients with T2DM.

Methods and Participants: a cross sectional study included 106 patients (35 to 80 years) was conducted at the Endocrinology Department in King Abdullah University Hospital (KAUH). Participants were divided to 3 groups, a group who was compliant to diet and drugs, a group who was compliant to drugs only and a group who was compliant to drug, diet and exercise. A questionnaire was designed, and questions were asked face to face. A physical activity score (International Physical Activity Questionnaire (IPAQ) was used

as well. Then, 3ml venous sample of blood was collected by a registered nurse for further analysis.

Results: there were no significant differences in inflammatory biomarkers between groups. However, gender, waist circumference, fish consumption, drinking water, sweetened beverages and HbA1c had significant impact on serum hs-CRP levels ($P \leq 0.05$). Regarding IL-6, we found that gender, education level, BMI, skipping meals, artificial sweeteners and serum B12 deficiency had a significant impact on IL-6. For TNF- α , fish, type of fat used for cooking, consumption of sweets and sweetened beverages and B12 supplementation have an impact on serum levels of TNF- α .

Conclusion: Many dietary habits affected the systemic inflammation among T2DM patients.

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