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Catha edulis and type 2 diabetes mellitus

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Introduction & Aim: Catha edulis (Khat) is an amphetamine-like stimulate in the form of plant leaves that are chewed for euphoric effects. The most chemical composition of Khat includes cathinone and cathine that stimulate the central nervous system. The World Health Organization (WHO) classified it as a drug abuse in 1980. Khat is illegal and commonly chewed by a large population (33.2%) in Jazan region which is located in the southwest of Saudi Arabia next to Yemen that is considered the main producer of Khat. The study aims to assess the association between Khat and Type 2 Diabetes Mellitus (T2DM) development and Body Mass Index (BMI).

Method: A case-control study design was conducted among 316 Saudi participants recruited randomly from all primary health care centers in Jazan, Saudi Arabia. The sample size was calculated using the Epi Info software, with a Confidence Interval (CI) of 95%, power of 80% and case to control ratio of 1:1. Based on a previous study, a hypothetical risk assumption of controls and cases were 11.3% and 23.9%, respectively with odds ratio of 2.47 were used in the sample size calculation giving a total of 316. They were assigned into two groups: 158 cases (T2DM) compared to 158 controls (non-diabetic). Cases' data were collected retrospectively by reviewing their medical files at the onset of diabetes development. A Chi-square test, Independent t-test and Binary logistic regression model were applied in the statistical analysis using Statistical Package for the Social Sciences (SPSS) software. All other confounders were assessed and adjusted in the analysis (obesity, family history of diabetes, hypertension, smoking, physical activity).

Result: A Chi-square test for independence indicated a significant association between Khat chewing and T2DM development (OR=2.3). Independent-samples t-test revealed that there was a significant difference in BMI mean for Khat chewers (M=28.3±5.3) and non-Khat chewers (M=30.2±5.1) indicating that Khat chewers had lower BMI. In logistic regression analysis, the strongest predictors for T2DM development were family history of diabetes (OR=2.5), Khat (OR=2.1) and hypertension (OR=1.9).

Conclusion: The current study found that Khat doubles the risk of T2DM development. However, it decreased the BMI.

Biography

Yahia Solan is Family Medicine Consultant. He has completed his Saudi Board (MD) degree in Family Medicine from Saudi Council for Health Specialties. He is the Head of Ethics Committee (Jazan Hospital, IRB). He has published several papers in reputed journals.

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