Background and aims Type 1 diabetes (T1D) is an autoimmune disease that results from the progressive and selective destruction of pancreatic beta cells. Trace elements have a key role as well as in adaptive immunity in inflammatory processes. The aim of this study was to measure circulating levels of Zinc (Zn), Copper (Cu), and protein fractions in patients with T1D.

Methods Sixty (60) subjects aged less than 15 years, divided into two similar groups (30 with recently type 1 diabetes and 30 controls) were recruited in the Department of Paediatrics of Tlemcen University Hospital, Zinc and copper were measured by polarimetry. The protein fractions were measured by zone electrophoresis on cellulose acetate (PFIC, serum protein electrophoresis) (HELENA, USA).

Results Serum Zn and Cu levels were significantly elevated in type 1 diabetes compared with controls (respectively, p = 0.001, p = 0.002). However, the percentage of alpha -1, alpha -2, beta and gamma globulins, and the total rate of serum globulins were identical in the two groups (p > 0.05). Conversely, the percentage of albumin and albumin/globulin ratio were significantly decreased in type 1 diabetes compared with controls (p < 0.01 and p < 0.05, respectively).

Conclusion Disorders Zn and Cu could be significant immunological abnormalities and inflammatory signs at the beginning of the installation of T1D.

PO-0053  HEALTH AFFECTING BEHAVIOUR CHANGES IN ADOLESCENTS WITH TYPE 1 DIABETES MELLITUS

V Bulkaitė, V Girgaliauskiene, A Vaskelytė. Lithuanian University of Health Sciences, Kaunas, Lithuania
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Background Is very important to teach the patien with diabetes to live together with this incurable disease so they avoid late complications. The transfere of knowledge to a patient does not always change his/her behaviour.

The aim To analyse changes of adolescents diabetes habits of nutrition, physical activity, smoking, and usage of alcohol before contracting diabetes and when 3, 6 and 12 month pass after the contraction of diabetes.

Material and methods The study was conducted in Children Endocrinology department, Hospital of Kaunas University of Medicine. 50 adolescents of 13–17 years old with diabetes partici-pated in anonymous questionnaire survey. Pre-test and post-test design was used to conduct the study. The Wilcoxon’s paired sample test was used to determine the difference in groups.

Results The study revealed that 41% who participated in the study did not eat regular, 22% did not attend any sports, 53% of adolescents were smoking and 40% of the surveyed were taking alcohol before contracting diabetes. When 3 months passed after the diagnosis of diabetes, the number of patients eating regular significantly increased, 89% not doing any sports, 16% were smoking, 12% admitted they were taking alcohol. After 6 and 12 months patients behaviour was changed (p < 0.05).

Conclusion Three months after diagnosis of diabetes mellitus most of adolescents ate regularly, there were less of those who smoked, consumed alcohol and the lowest number of those who exercised when compared with findings of surveys conducted before diagnosis and after six or twelve months.

PO-0054  EPIDEMIOLOGY OF TYPE 1 DIABETES MELLITUS IN CHILDREN IN TUNISIA

M Hadchica, H Aloulou, S Slahi, B Ben Becher, H Boussatta, N Gandoura, N Guerdiche, F Garjah, H Tibb, B Boughammoura, S Harbi, Y Abbouli, S Sfar, A Bouzidi, N Bouzid, E Bayoudh, A Choukab, H Ben Ammar, R Yaich, T Hammom. Pediatrics, Hedi Chaker University Hospital, Sfax, Tunisia; Pediatrics, Children’s Hospital, Tunis, Tunisia; Pediatrics, Bajerte Hospital, Bizerte, Tunisia; Pediatrics, Monastir Hospital, Monastir, Tunisia; Pediatrics, Charle Nicole Hospital, Tunis, Tunisia; Pediatrics, Rabta Hospital, Tunis, Tunisia; Pediatrics, Farhat Hachd Hospital, Sousse, Tunisia; Pediatrics, Sahlioud Hospital, Sousse, Tunisia; Pediatrics, Kairouan Hospital, Kairouan, Tunisia; Pediatrics, Mahdia Hospital, Mahdia, Tunisia; Pediatrics, Nabeul Hospital, Nabeul, Tunisia; Pediatrics, Jerba Hospital, Jerba, Tunisia; Pediatrics, Militaire Hospital, Tunis, Tunisia; Pediatrics, Sidi Bouzid Hospital, Sidi Bouzid, Tunisia; Pediatrics, Gafsa Hospital, Gafsa, Tunisia; Community and Preventive Medicine, Hedi Chaker University Hospital, Sfax, Tunisia
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Introduction The geographical incidence of type 1 diabetes mellitus in children varies widely worldwide. Both genetic and environmental factors have been implicated.

Objective Evaluated the incidence of type 1 diabetes in children in Tunisia and identified the epidemiologic characteristics.

Patients and methods We conducted a retrospective study of new cases of type 1 diabetes in children (0 -15) years, discovered during the years 2009–2010–2011 in 17 paediatric centre from Tunisia.

We divided our patients into 3 groups: group 1 (0–4 years), Group 2 (5–9 years) and group 3 (10–15 years). These three