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Objective: To evaluate the association between physical activity (PA) and the C-Reactive Protein (CRP), comparing 3 methods to operationalize the physical activity.

Methods: The population base of this report are children of participants of the project "Cohort of Workers IMSS-INSP-UAEM". The methods have been described previously. Briefly, the PA level was evaluated with a questionnaire used previously that allows measuring the PA during the daily life and in the free time. The CRP levels were determined using the highly sensitive technique. By means of models of multiple logistic regression the association between the PA (measured in minutes per day in the free time, in MET's of total PA and like reason of the time of PA in the free time and the time in activities of low energetic expenditure - RAI-) and the levels of CRP was evaluated (< 5 mg/l Versus. 5-10 mg/l), adjusting by diverse covariables.

Results: The information of 1.007 clinically healthy adolescents was analyzed. 139 (13.8%) adolescent with levels elevated of CRP were detected. The PA min/day, METS/day and RAI were inversely associated with the CRP; (OR=0.32 CI95% 0.18-0.58; OR=0.44 CI95% 0.23-0.85; OR=0.42 CI95% 0.23-0.75, respectively).

Conclusions: The PA is associated with the CRP levels. We could observe that the operationalization of the PA does not modify the observed association, this finding is relevant since in our knowledge there is no previous report of the same. However, it is necessary to confirm these findings in other populations.

METABOLIC RISK FACTORS IN GUADELOUPEAN ADOLESCENTS

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Aims: To quantify the presence of selected cardiovascular and metabolic risk factors among adolescents of Guadeloupe.

Methods: 808 voluntary students aged 11-17 yo from 6 schools participated. They fulfilled the modifiable activity questionnaire over a 7-day period. Their height, weight, body composition and blood pressure were measured. Elevated blood pressure was defined as systolic or diastolic blood pressure above the 95th percentile adjusted for age, gender and height percentile given by the fourth report of the American national high blood pressure education program working group on high blood pressure in children and adolescents.

Results: Based on IOTF threshold of body mass index, 18.9% of the participants were overweight and 7.3% were obese. The distribution of the weight status was affected by the gender ($\chi^2 = 13.2$, $p < 0.001$), with moderate or severe hypertension identified among 9.7% of boys, and 12.9% of girls. As other authors, we observed a strong association between the weight status and the blood pressure status, but no specific profile of physical activity was identified according to the blood pressure profile.

Conclusions: This study confirms in a Caribbean population that the screening of blood pressure is necessary in adolescents presenting overweight or obesity. Our results suggest that it is not pertinent in this population to target one or the other of the metabolic or cardiovascular risk factor with exercise programs likely to prevent the development of metabolic abnormalities in general population.

ASSOCIATION BETWEEN C-REACTIVE PROTEIN AND ALANINE AMINOTRANSFERASE AS CARDIOVASCULAR RISK FACTORS IN ADOLESCENTS

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Aim: To identify the association between C-reactive protein (CRP) and alanine aminotransferase (ALT) and cardiovascular risk factors (CV) in adolescents 10 to 18 years.

Materials and methods: 795 subjects participated, the CV was determined by the criteria of the Adult Treatment Panel III for pediatric ages. The BMI was established by the boards of the CDC, according to percentiles for age and sex. Elevated values of CRP and ALT were defined as those above the median (> 3.3mg / L and > 15mg/dL, respectively) classified into four groups.

Results: The average age was 14 ± 2.5 a. 52% were women. Prevalence of elevation CRP and ALT was 48% and 43% respectively. Overweight / obesity was found in 31%, hyperinsulinemia in 14.5%, and insulin resistance in 26.54% of the population.

The prevalence of ALT elevated was higher in males ($p < 0.001$). ANOVA analysis showed that the mean value of CV as: BMI, waist circumference (WC), systolic blood pressure (s-BP), triglycerides (TG), HDL-c, insulin and HOMA-IR, was higher in the elevated groups of CRP and ALT ($p < 0.001$ in all), but not for blood pressure and glucose.

After adjusting for age and sex observed that: BMI, WC, TG, HDL-c, insulin and HOMA-IR were positively associated with elevation of CRP and ALT. The OR's ranged from 2.1 (TG) and 8.6 (BMI), all statistically significant.

Conclusions: Our data suggest that elevated concentrations of CRP and ALT are associated with CV in children and adolescents however it is necessary to confirm this in other populations.

INSULIN RESISTANCE AND ADIPOCYTOKINES IN YOUNG OBESE CHILDREN

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Aims: To evaluate the prevalence of insulin resistance (IR) and dyslipidemia in obese children and their possible relation to the plasma levels of adipocytokines.

Methods: 56 children (29 boys; 27 girls; BMI>95th percentile) between 7-9 year-old participated in a lifestyle intervention program. Assessment at baseline included weight, height, BMI, BMI-Zscore (BMI-Zs), waist circumference (WC), Tanner stage, blood pressure, and fasting serum level of glucose, insulin, C-peptide, total cholesterol, HDL, LDL, triglycerides (TG), leptin, adiponectin, TNF- α , interleukin 6 (IL-6), C-reactive protein (CRP) and homocysteine. Insulin resistance (IR) was calculated by HOMA-IR method. Results with statistical significance ($p < 0.05$) are presented.

Results: At baseline, all children presented with abdominal obesity (WC \geq 90th percentile). IR was observed in 11% of children. Total cholesterol \geq 180 mg/dl, HDL \leq 40 mg/dl, LDL \geq 110 mg/dl and TG \geq 100 mg/dl were found, respectively, in 36%, 9%, 45% and 16% of the sample. Correlation analysis showed a linear relationship between BMI and the

following variables: C-peptide, IR, leptin, TG and CRP. WC correlated positively with BMI, BMI-Zs, C-peptide, insulin, leptin, PCR and homocysteine, and negatively with adiponectin. IR correlated linearly with leptin and TG. Leptin showed a positive correlation with C-peptide, TG and CRP. However, adiponectin levels were inversely correlated with BMI, insulin, TG, CRP, homocysteine, leptin and TNF- α .

Conclusions: These obese children showed a significant prevalence of IR and dyslipidemia. Leptin levels correlated with a low-grade inflammatory state and IR, contributing to the future development of metabolic syndrome. In contrast, adiponectin seems to have an important protective role.

EPIDEMIOLOGICAL FEATURES OF TYPE 1 DIABETES MELLITUS IN PEDIATRICS

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The type 1 diabetes mellitus is the most frequent in pediatrics, the epidemiological studies shows a regular increase of frequency.

The objective of the study was to describe the epidemiological features of type 1 diabetes mellitus among children attending the pediatrics department at Tlemcen Hospital, Algeria.

Prospective study was conducted on 202 patients at the pediatrics department; from 01-01-1999 to 09-15-2008. For each patient a questionnaire was field. A clinical examination was performed. We used the World Health Organization (WHO) type 1 diabetes mellitus definition for patients ≤ 15 years old.

This study showed for 202 patients; 98 males (48%) and 104 females (52%) was diagnosed with type 1 diabetes mellitus. The mean age at diagnosis was 7.5 years old. For 14 families, at least 2 members have had type 1 diabetes mellitus. Three types of regimens used for the treatment. The diabetes wasn't controlled well; the mean of HbA1C was 11.23% /patient/year. Association with others autoimmune diseases noticed: celiac disease for 3 patients, thyroiditis for 8 patients. This association complicates the management of the diabetes.

Statural growth was satisfactory with sometimes non significant puberty retardation. Degenerative complications were reported: retinopathy for 20 patients, cataract for 5 patients, and renal impairment for 8 patients.

The finding indicates that pediatricians as well physicians in charge of child with diabetes, should seriously and continuously consider the diabetes degenerative complications. For the patient futures all the consequences are related to the well control of diabetes from the childhood period.

MENTAL HEALTH PARAMETERS IN GREEK OVERWEIGHT AND OBESE ADOLESCENTS

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Objective: To assess the prevalence of behavioral, emotional symptoms and mental disorders in Greek overweight and obese adolescents.

Methods: 538 adolescents, 226 boys (Mean \pm SD) 14.4 \pm 2 years and 312 girls (Mean \pm SD) 14.9 \pm 2.03 years followed at the Center for Health and Prevention in Adolescence, were included. 69 boys and 82 girls were overweight/obese. Mental health parameters were assessed by the use of the Youth Self Report (Achenbach System of Empirically Based Assessment). For the statistical analysis of the collected data SPSS 16.0 was used and t-test was performed.

Results: Descriptive statistics in the group of obese adolescent boys showed: depression - anxiety 7.2%, withdrawal-depression 2.9%, social problems 2.9%, attention problems 4.3%, delinquent behavior 2.9%, aggressive behavior 11.8%, thought problems 0%. Additionally, in the group of obese girls showed: depression - anxiety 12.2%, withdrawal-depression 11%, somatic complains 2.4%, social problems 11%, thought problems 1.2%, attention problems 11%, delinquent behavior 3.7%, and aggressive behavior 7.3%. In the group of obese boys there is a higher prevalence of thought problems and delinquent behavior ($p < 0.05$). In the group of obese girls there is a higher prevalence of somatic complains and attention problems ($p < 0.05$).

Conclusion: The epidemic of obesity not only affects the physical health but also the mental health of the adolescents. Therefore, personalized psychological support is needed along with the dietary intervention.

ESTIMATION OF QUALITY OF LIFE IN ADOLESCENCE WITH DIABETES MELLITUS

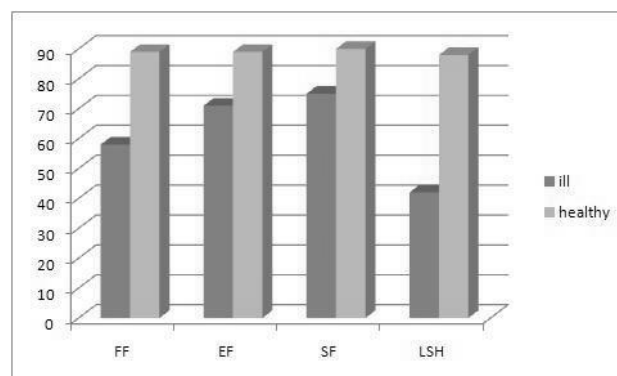
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Aims: To implement an estimation of quality of life (QOL) in adolescence with diabetes type one, comparing it with quality of life of healthy adolescence.

Methods: We used the international pediatric questionnaire of quality of life - PedsQL™ 4.0 General Score, Diabetes Module (Varni J., 2001), «The Scale of psychological well-being» (K. Ryff, 1989). Adolescence with diabetes in number of 58 persons aged on the average 15,8 \pm 2,4 have been inquire.

Results: Indicators of general QOL of patients with diabetes in comparison with control group: considerable decrease in indicators are established: physical functioning (58,4 \pm 16,2; $p < 0,01$), emotional functioning (70,8 \pm 18,8; $p < 0,01$), social functioning (75,1 \pm 17,4; $p < 0,01$), school functioning (42,3 \pm 22,1; $p < 0,01$); Patients with diabetes have low level of psychological well-being: positive relations» (60,0 \pm 9,6; $p < 0,01$), «an autonomy» (55,5 \pm 9,7; $p < 0,01$), «management of environment» (58,6 \pm 9,7; $p < 0,01$), «personal growth» (61,3 \pm 10,7; $p < 0,01$), «purposes in life» (62,4 \pm 11,0; $p < 0,01$), «self-acceptance» (56,1 \pm 10,6; $p < 0,01$). The correlation analysis: positive correlation between complications of a diabetes and positive relations with associates ($r = 0,56$; $p < 0,05$); an autonomy ($r = 0,40$; $p < 0,05$); personal growth ($r = 0,37$; $p < 0,05$); purposes in life ($r = 0,41$; $p < 0,05$); self-acceptance ($r = 0,60$; $p < 0,05$).



[QOL of ill and healthy adolescence (PedsQL)]