

PP11 Association between atopic disorders and childhood type 1 diabetes: A population-based case control study in the...

Article in *Journal of Epidemiology & Community Health* · September 2014

Abstracts

healthy eating. From the quantitative data lack of willpower was reported by 48% of participants and there was no difference across groups, resistance to change was stronger among females. **Conclusion** Lack of knowledge and cultural issues are barriers to healthy eating in Saudi amongst those with and without T2D which would impact on the countries high prevalence of T2D. Further studies are required to inform culturally tailored dietary awareness campaigns.

PP10 CENTRAL ADIPOSITY AS A DRIVER OF THE TYPE 2 DIABETES (T2D) EPIDEMIC IN SAUDI PEOPLE

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10.1136/jech-2014-204726.107

Background Adiposity is a major risk factor for T2D, and is associated with diabetes markers. Saudi Arabia is in the top ten countries as to the prevalence of obesity, with an overall prevalence of 35.6% among adults. Although obesity is a major health problem in Saudi, the associations between anthropometric measures and T2D have not been extensively investigated in population-based studies within the Saudi context. The aim of this study was to examine the cross-sectional associations between anthropometric measures such as body mass index (BMI), waist circumference (WC) and T2D prevalence in Saudi adults.

Methods This study was based on 2355 Saudis (≥ 18 years), part of a larger sample of 14,060 Saudis randomly selected from a roster of 150 primary health care centres (PHCC's) of Riyadh city, Saudi Arabia. For each PHCC, a physician invited participants from randomly selected households (alternate houses). The number of subjects sampled from each PHCC was dependent on the total population assigned to the respective PHCC. Physicians confirmed diabetes diagnosis by either following World Health Organisation proposed cut-off values (fasting plasma glucose levels ≥ 7.0 mmol/L) and/or self-report of anti-diabetes medications. For the overall sample and for men and women separately, logistic regression was used to calculate odds ratios (ORs) and 95% confidence intervals (CI) of T2D prevalence across body mass index (BMI) groups and WC tertiles. The reference category was the lowest. Covariates included: age, sex, marital status, education level, family history of diabetes, physical activity, caloric intake, and history of gestational diabetes (GDM) in females.

Results The overall prevalence of T2D was 29.3% (25.4% in females versus 32.9% in males). In obese females (BMI ≥ 30 kg/m²) the OR for diagnosed diabetes was 3.39 (95% CI, 1.5–7.6, $p = 0.001$). While in males, a statistically significant association was observed for increased WC (OR 1.99, 95% CI, 1.2–3.1, $p = 0.006$) and T2D. In the overall sample, a direct and statistically significant ($p = 0.014$) association was observed between WC and the OR for diabetes within each group of BMI, whereas the associations of BMI with diabetes attenuated ($p = 0.572$) after accounting for WC.

Conclusion Results suggest that measures of central adiposity, such as WC, are associated with diabetes, independently of BMI. These results may have clinical and public health implications in terms of targeted preventive strategies to address the ongoing diabetes epidemic in this context.

PP11 ASSOCIATION BETWEEN ATOPIC DISORDERS AND CHILDHOOD TYPE 1 DIABETES: A POPULATION-BASED CASE CONTROL STUDY IN THE MIDDLE EAST

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10.1136/jech-2014-204726.108

Background Worldwide, there has been a steady increase in the incidence of childhood type 1 diabetes over the last three decades, and the incidence is estimated to double between 2005 and 2020 in most countries. Substantial increases in incidence have also been observed in countries in the Middle East, and Kuwait now has the 4th highest incidence of type 1 diabetes in the world (22.3/100,000/year). We conducted a population-based case-control study in Kuwait (which is the first study on the subject in the Middle East) to identify neonatal and early childhood factors that may influence the risk of type 1 diabetes.

Methods The study included 376 children with type 1 diabetes (aged 0–19 years at diagnosis and registered at the Kuwait Childhood Diabetes Registry) and a similar number of individually matched (on age, gender, nationality, and district of residence) population control subjects. Mothers of children were interviewed to obtain information on infant feeding (including breastfeeding), physician diagnosed diseases and candidate neonatal and early childhood risk factors before the date of diagnosis/pseudodiagnosis of type 1 diabetes in cases/controls.

Results The prevalence of atopic eczema and asthma was significantly lower in cases compared with controls (6% vs. 18% and 9% vs. 24%, respectively). In the multivariate conditional logistic regression analysis, atopic eczema (OR=0.3, 95% CI: 0.1–0.5) and asthma (OR=0.3, 95% CI: 0.2–0.5) were inversely associated with the risk of type 1 diabetes, after adjustment for maternal age at birth, infant feeding, other diseases and stressful life events. There was also an inverse association with history of tonsillitis during the first year of life (OR=0.5, 95% CI: 0.3–0.7).

Conclusion Our findings suggest that there is a significant reduction in the prevalence of atopic eczema and asthma in children with type 1 diabetes, and that atopic disorders may confer partial protection against type 1 diabetes. This association between Th2-biased immune response/atopic disorders and Th1-biased autoimmune diseases such as type 1 diabetes needs further investigation.

PP12 CARDIOMETABOLIC RISK PROFILES IN PRE-DIABETES AND DIABETES DEFINED BY FASTING PLASMA GLUCOSE AND HBA_{1c} LEVELS IN MIDDLE-AGED ADULTS

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10.1136/jech-2014-204726.109

Background The American Diabetes Association (ADA) have recommended glycated haemoglobin A_{1c} (HbA_{1c}) measurement as an alternative to fasting plasma glucose (FPG) for the diagnosis of pre-diabetes and type 2 diabetes. However, evidence suggests discordance between HbA_{1c} and FPG. The aim of this study was to compare the metabolic profiles in subjects with pre-diabetes and type 2 diabetes, using ADA-recommended HbA_{1c}