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Diabetes among Turkish immigrants in Sweden. A study of prevalence and risk factors

AKADEMISK AVHANDLING

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av

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ABSTRACT

Background Risk factors associated with the difference in susceptibility to diabetes in different ethnic groups are poorly understood. This thesis investigates differences in prevalence of, as well as risk factors for, diabetes, impaired glucose tolerance (IGT) and impaired fasting glucose, and whether there is an effect of migration, in Turkish immigrants in Sweden.

Methods Two data sets were used for this thesis, a survey from the Swedish National Board of Health and Welfare (the Immigrant Survey) combined with the Swedish Survey of Living Conditions and a cross-sectional total-population survey on Turkish immigrants in Flemingsberg, Sweden. From the first survey, data were compared between Turkish immigrants in Sweden (n=526) and Swedish controls (n=2,854), all in ages 27-60 years. The second survey, which included a questionnaire, a medical examination, an oral glucose tolerance test (OGTT) and other laboratory analyses, comprised 238 Turkish men and women aged ≥ 20 years, living in Sweden. Data on diabetes and IGT were compared with 1549 participants of the same age, living in the Konya area in Turkey. Risk factors studied in the Turkish group in Flemingsberg were hypertension, obesity, central obesity, high fasting triglycerides, low HDL cholesterol, the metabolic syndrome, smoking and alcohol consumption, physical inactivity, stress, poor self-rated health and socio-economic factors.

Results The self-reported diabetes prevalence was higher among Turkish women in Sweden, (odds ratio (OR) 3.22, 95% confidence interval (CI) 1.36-7.64) compared to Swedish women. After adjustment for low educational level, unemployment and increased BMI, there was no difference between groups. Self-reported stress (anxiety, sleeping problems and pain) was also more common among Turkish men and women (compared to Swedish controls) even after adjusting for socio-economic factors. The prevalence of diabetes and IGT, was significantly higher among Turkish immigrants in Flemingsberg (11.8% and 15.6%, respectively), compared to controls in Turkey (7.1% and 7.6%, respectively). Turkish women in Sweden had a significantly higher prevalence of diabetes than Turkish women in Turkey (12.8% vs. 7.6%) and IGT was significantly higher among Turkish men in Sweden compared to men in Turkey (17.8% vs 4.9%). Mean onset of diabetes in the Turkish group in Flemingsberg was at 47 years. The fully adjusted odds of Turkish men in Flemingsberg having DGT (Disturbed Glucose Tolerance = diabetes or IGT) were 4-5 times higher if they had hypertension or were smokers or former smokers. Among women risk factors were central obesity and high fasting triglycerides (4.5 times higher odds for DGT). Men who reported smoking and alcohol consumption, were 3 times more likely to be newly diagnosed with DGT (OR 3.58, CI 1.29-9.96). Odds for newly diagnosed DGT were also higher among employed Turkish women in Flemingsberg (OR 2.73, CI 1.05-7.05). There was no association between DGT or the Metabolic Syndrome, with stress factors.

Conclusions Turkish immigrants in Sweden are a risk group for diabetes. Culturally adjusted and gender specific intervention programs are urgently needed. Overweight, hypertension, alcohol consumption and smoking should be targeted risk factors. Identification of acculturation factors, such as changes in lifestyle, vitamin D-deficiency or change in microbiota is an important field of research to explain changing risks of diabetes among immigrants.