The Prevalence of Prediabetes and Associated Risk Profiles Among Rural Adults in Southern Taiwan

Shin-Jing Lin[1,3,4], Kun-Tai Lee[1], Chih-Sheng Chu[1], Kai-Hong Cheng[1], Wei-Chung Tsai[1], Sheng-Hsiung Sheu[1], Ming-Tsang Wu[2,4], Wen-Ter Lai[1]

Division of Cardiology, Department of Internal Medicine[1] and Department of Family Medicine[2], Kaohsiung Medical University Chun-Ho Memorial Hospital, Chi-Shan Hospital, Department of Health Executive Yuan, R.O.C[3], Department of Public health, Kaohsiung Medical University[4]

Background

Diabetes mellitus is associated with long-term multiple organ damage. We used to diagnosed diabetes mellitus according to hyperglycemia, but it seemed important to identify abnormal glucose of asymptomatic people, too. American Diabetes Association (ADA) introduced the category between the normal glucose and diabetes as "Prediabetes". This study aimed to assess the prevelance of prediabetes and its associated risk profiles in rural adult population in southern Taiwan.

Materials and Methods

From community-based cross-sectional data collected in the Chi-Shan district and Hsiao-Kang district in Southern Taiwan between 2001 and 2007, a total of 26715 adults (11295 men and 15420 women) were analyzed for their demographic, metabolic and behavior characteristics. These characteristics were compared between the different blood sugar groups. Multiple logistic regression methods were used to identify the risk profiles for prediabetes.

Results

Within the study population, 5886 (22%) out of 26715 were prediabetic subjects. The prediabetic group had higher levels of age, total cholesterol, triglycerides, body mass index (BMI), creatinine and uric acid than did the normosugar group. Multivariate logistic regression analysis revealed that obese (BMI ≥ 30 kg/m2) was the strongest predictor of prediabetes (OR = 2.12, 95% CI = 1.890-2.379, P < 0.001). Obese (BMI ≥ 30 kg/m2) was also the strongest predictor of prediabetes for both males and females (OR = 2.083, 95% CI = 1.729-2.508, P < 0.001; and OR = 2.021, 95% CI = 1.744-2.343, P < 0.001, respectively).

Conclusion

The prevalence of prediabetics is high among rural adults in Southern Taiwan. Prediabetes are known to be at increased risk for progression to DM, which is associated with many risk factors for further cardiovascular disease. Early lifestyle modifications, such as optimal weight control is a recommended intervention.