Abstract

Objective: This study aims to use a pharmacoepidemiological approach to study the drug use of patients during the year prior to diabetes diagnosis (i.e. pre-diabetic patients) and control patients. Drug use might reveal cardiovascular, metabolic and/or endocrinological changes and help to identify indicators for active monitoring of Type 2 diabetes mellitus. Methods: A retrospective case-control study compared drug use of patients with a future diagnosis of diabetes (experimental patients) with patients without a diabetes diagnosis (control patients) based on community pharmacy records. An experimental patient had used oral hypoglycaemic drugs during 2005 or 2006. Experimental and control patients were matched in terms of age, gender and quarter of index date. Drugs were selected based on possible comorbidities of diabetes. Drug use was expressed as a binary variable, indicating whether or not a patient took specific drugs. Drug use was compared between experimental patients during the year prior to diagnosis and control patients using the chi-squared test. Results: Our dataset covered 5,064 patients (1,688 experimental and 3,376 control patients). A higher probability of taking cardiovascular drugs was observed for specific subgroups of patients with pre-diabetes as compared to control patients: this trend was observed for men as well as for women, for various cardiovascular drug classes, and for different age groups (p<0.05), although it was not always statistically significant for the 29-38 age group. For each selected age and gender group, patients with pre-diabetes had a higher probability of taking a combination of a lipid-modifying agent and an antihypertensive drug than control patients (p<0.005). Conclusions: Using community pharmacy data, this study demonstrated that age and a characteristic drug use pattern could contribute to detecting pre-diabetes. There is a potential role for community pharmacists to follow up drug indicators of patients with a view to refer high-risk people for screening by a physician.

Keywords

Diabetes Mellitus, Type 2, Diagnosis, Primary Prevention, Drug Utilization, Community Pharmacy Services, Belgium.