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Validity of hospital discharge records to identify pregestational diabetes in an Italian population

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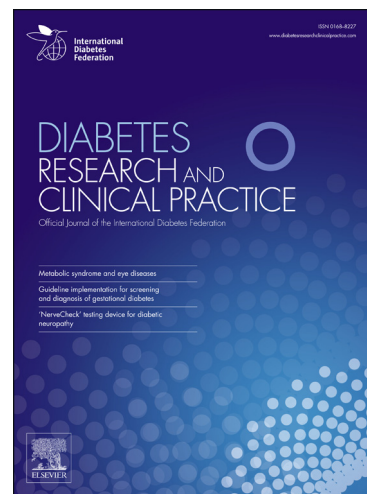
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Title: Validity of hospital discharge records to identify pregestational diabetes in an Italian population.

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Highlights

- This seems to be the first Italian study and the third worldwide evaluating the accuracy of hospital discharge coding for identification of pregestational diabetes, an issue of relevant epidemiologic and public health importance.
- Hospital discharge coding allowed to identify almost all women with pregestational diabetes (sensitivity: 99.3%), but it also included a large number of false positives (positive predictive value: 46.4%).
- Pregestational diabetes prevalence calculated through ICD-9-CM codes appears to be largely overestimated.

Abstract

Aims. In recent years, the prevalence of pregestational diabetes (PGDM) and the concern about the possibility of adverse pregnancy outcomes in affected women have been increasing. Routinely collected health data represent a timely and cost-efficient approach in PGDM epidemiological research. This study aims to evaluate the reliability of Hospital Discharge (HD) coding to identify a population-based cohort of pregnant women with PGDM and to assess trends in prevalence in two provinces of Northern Italy.

Methods. We selected all deliveries occurred in the period 1997–2010 with ICD-9-CM codes for PGDM in HD record, matched with five controls from mothers without diabetes. We used Diabetes Registers (DRs) as the gold standard for validation analysis.

Results. We selected 3800 women, 653 with diabetes and 3147 without diabetes. The agreement between HD records and DRs was 90.7%, with $K=0.58$. We detected 350 false positives and only 1 false negative. Sensitivity was 99.3%, specificity 90.0%, positive predictive value 46.4% and negative predictive value 99.9%. Of the false positives, 48.6% had gestational diabetes and 2.3%

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