

# Type 2 Diabetes Mellitus and cardiovascular events in Colombia

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# Introduction

- Diabetes is one of the 10th first causes of deaths in Colombian >45 yrs.
- It significantly increase the risk of acute cardiovascular events.
- Most evidence come from industrialized countries.
- Less data is available about the impact of Diabetes on CVD from developing countries.

RESEARCH ARTICLE

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# First cardiovascular event in patients with type 2 diabetes mellitus of a cardiovascular risk management program of a poor Colombian population: a cohort study

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# Methods

- Type of study: Retrospective Cohort study. Cartagena de Indias and other Caribbean areas.
- Population:
  - > 35 years,
  - At least one CVD risk factor,
  - Enrolled in a secondary/tertiary prevention program (“De todo Corazon”).
- Exposed cohort:
  - Patients with type 2 Diabetes/without antecedent of a CVD.
  - DM type 2 Dx: ICD 10 code/reported history of DM/at least one glycosilated hemoglobin levels >6.5/being under clinical treatment for diabetes
- Unexposed cohort: Patients without Diabetes/without antecedent of a CVD.

# Methods

- Outcomes:
  - Acute episode of myocardial infarction and sudden death by myocardial infarction
  - Angina pectoris
  - Stroke
- Source of information on exposure and outcomes:
  - Clinical records
  - ICD 10 diagnosis

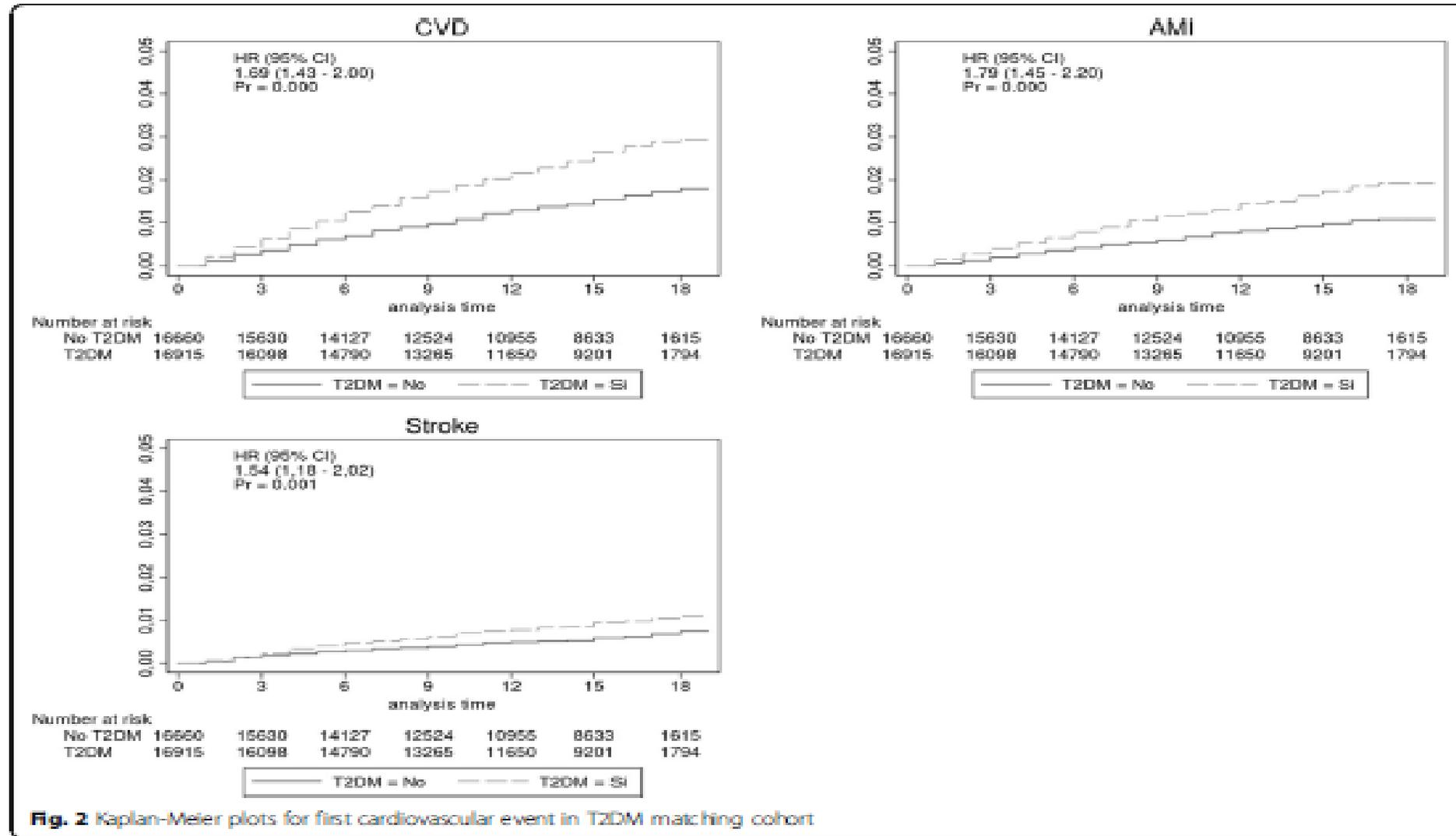
# Methods

- Control of potential confounding variables:
  - Propensity score.
  - Variables for propensity score: age, sex, smoking, physical activity, hypertension, obesity, hiperlipidemia, use of medication for different CVD risk factors, others.
- Statistical analysis:
  - Kaplan Meier
  - Cox regression analysis

# Results

- 56,361 patients of “Todo Corazon” included in the whole cohort.
- 19,368 (34%) were classified as DM type 2 .
- Incidence of CVD was 22/1,000 py in >65 yrs and 7/1,000 py in <65 yrs.
- Risk of CVD among type 2 DM patients was 3.5% vs 2.1% among no exposed.
- RR 1.7 (CI 95% 1.4-2.0)

# Results



**Fig. 2** Kaplan-Meier plots for first cardiovascular event in T2DM matching cohort

**Table 3** Association of a history of Type 2 DM and first event AMI

	T2DM (event/N)		OR	IC95		Effect	Breslow-Day homogeneity test
	No	Yes					
Sex							
Women	133/12741	228/12644	1.741	1.397	2.175	0.426	0.636
Men	133/5708	228/5805	1.613	1.276	2.047	0.380	
Age							
< 65 years	100/9807	144/9719	1.460	1.121	1.906	0.315	0.176
> =65 years	154/8642	280/8730	1.826	1.491	2.243	0.452	
CKD							
No	198/15409	330/15415	1.681	1.402	2.015	0.405	0.944
Yes	56/3040	94/3034	1.704	1.206	2.424	0.413	
Control HTA							
No	31/1797	48/1747	1.609	0.998	2.629	0.585	0.385
Yes	223/16652	376/16702	1.697	1.431	2.012	0.398	
Dyslipidemia							
No	8/2493	19/2466	2.412	1.006	6.379	0.464	0.647
Yes	246/15956	405/15983	1.660	1.410	1.955	0.384	
Obesity							
No	146/9171	246/9134	1.711	1.385	2.119	0.416	0.835
Yes	108/9278	178/9315	1.654	1.293	2.124	0.395	

**Impact of Diabetes type 2 on Acute Myocardial Infarction estratified by other factors.**

# Conclusion

- LAC is currently facing an epidemic of T2DM and associated factors:
  - obesity
  - lack of physical activity
  - wide access to sugary beverages/"trash foods" without added nutritional value
- This is one of the few studies in LAC evaluating the impact of type 2 diabetes on CVD using a cohort study.

# Conclusion

- It uses electronic data from a large cohort of type 2 diabetes patients.
- “Big data”
- T2DM increase twice the risk of a first episode of CVD even after controlling by multiple factors.
- More efforts to control risk factors for T2DM, including raising barriers to accessing sugary beverages/“trash food”.

# Gracias

