

# Results of the Multicentric Study RENACED on Type 1 Diabetes Mexican Patients



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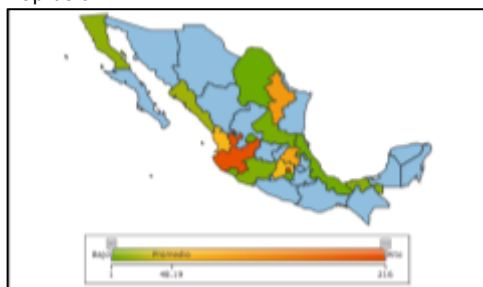
## INTRODUCTION

Information regarding treatment, follow-up and outcomes of type 1 diabetes (T1D) Mexican patients is limited. An online system, RENACED, was created to have a longitudinal T1D registry with real-life data in Mexico.

## METHODS

Descriptive and bivariate analysis of 743 T1D patients registered on RENACED in 16 Mexican States (28 different medical units), until 2/22/2017.

Mexican States where medical units exist are shown in map below.



## RESULTS

Forty percent of patients were men, with median age 21 years and median age at diagnosis 11 years old. Median diabetes duration from diagnosis was 10.5 years. Twelve percent have family history of T1D and 55% of T2D. Median HbA1c at diagnosis and in the last visit were 11.8% and 8.6%, respectively (TABLES 1 and 2).

**TABLE 1: Descriptive Characteristics of the Population at Diagnosis**

Mean age at diagnosis (years)	11
Mean HbA1c at diagnosis (%)	11.8
DKA at diagnosis (%)	54.8
Hospital Admissions at diagnosis (%)	67.9

Regarding treatment, 26% are on CSII, 64% on MDI with insulin analogues, 8% on MDI with human insulin, 1.2% on premixed insulin, 1% on basal insulin only.

**TABLE 2: Most Recent Metabolic Data**

Mean HbA1c in the last visit (%)	8.6
Mean daily insulin dose (UI/kg)	0.72
Perform SMBG (%)	92
Continuous Glucose Monitor (%)	11
Counts Carbohydrates (%)	75.7
Exercise (%)	47.5

SMBG is performed in 92%, 36% perform it  $\geq 4$  times/day. Patients that perform SMBG  $\geq 4$  times/day, had lower HbA1c levels (8.2; CI 95% 7.9 - 8.4) than those that monitor less (8.6; CI 95% 8.4–8.9) ( $p < 0.05$ ).

Also, **lower HbA1c levels** ( $p < 0.05$ ) were observed in patients that used:  
 - **CGM** (7.8; CI 95% 7.5–8.1 vs. 8.7; CI 95% 8.5–8.9),  
 - **CSII** (7.9; CI 95% 7.6–8.1 vs. 8.8; CI 95% 8.6–9.1),  
 - or **metformin** (8.0; CI 95% 7.4–8.6 vs. 8.7; CI 95% 8.5–8.9)  
 An **HbA1c level  $< 7\%$**  was found in **19%** of patients

Hypothyroidism was found in 39.5% of the patients (TABLE 3).

**TABLE 3: Associated diseases, tobacco and alcohol use**

Hypothyroidism (%)	39.5
Hypertension (%)	6.9
Alcohol intake (%)	15.6
Tobacco use (%)	8.7

The presence of mild/moderate hypoglycemia is 71% and of severe hypoglycemia is 19%. Presence of retinopathy, neuropathy and nephropathy was found in 15%, 13% and 12.5%, respectively (TABLE 4).

**TABLE 4: Acute and Chronic Complications**

Mild/Moderate hypoglycemia events (%)	71
Severe hypoglycemia events (%)	19
DKA post diagnosis (%)	12
Retinopathy (%)	15
Neuropathy	13
Nephropathy	12.5

## CONCLUSIONS

According to the literature, the percentage of patients with HbA1c at goal is lower than desired, even though many are on state-of-the-art treatment. Performing SMBG  $\geq 4$  times/day, CGM use, CSII and metformin are associated with better glycemic control.

This is the first online system for T1D registry in Mexico. A larger number of cases will lead to better national representation.