

INCIDENCE OF TYPE 1 DIABETES IN CHILDREN UNDER 15 YEARS OLD IN NAVARRE (SPAIN) BETWEEN 1980 AND 2014



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BACKGROUND

- The incidence of childhood T1DM is rising worldwide.
- Geography, age, gender, genetic susceptibility, ethnicity, environmental risk factors or differences in features and quality registers, are all factors that produce variation in the rate of incidence.
- The global rate of incidence ranges from 0.1 to 65 per 100,000 children younger than 15.
- In Spain, the rate of incidence is high (20.6) with fluctuations seen among the different Autonomous Communities.

OBJECTIVE AND HYPOTHESES

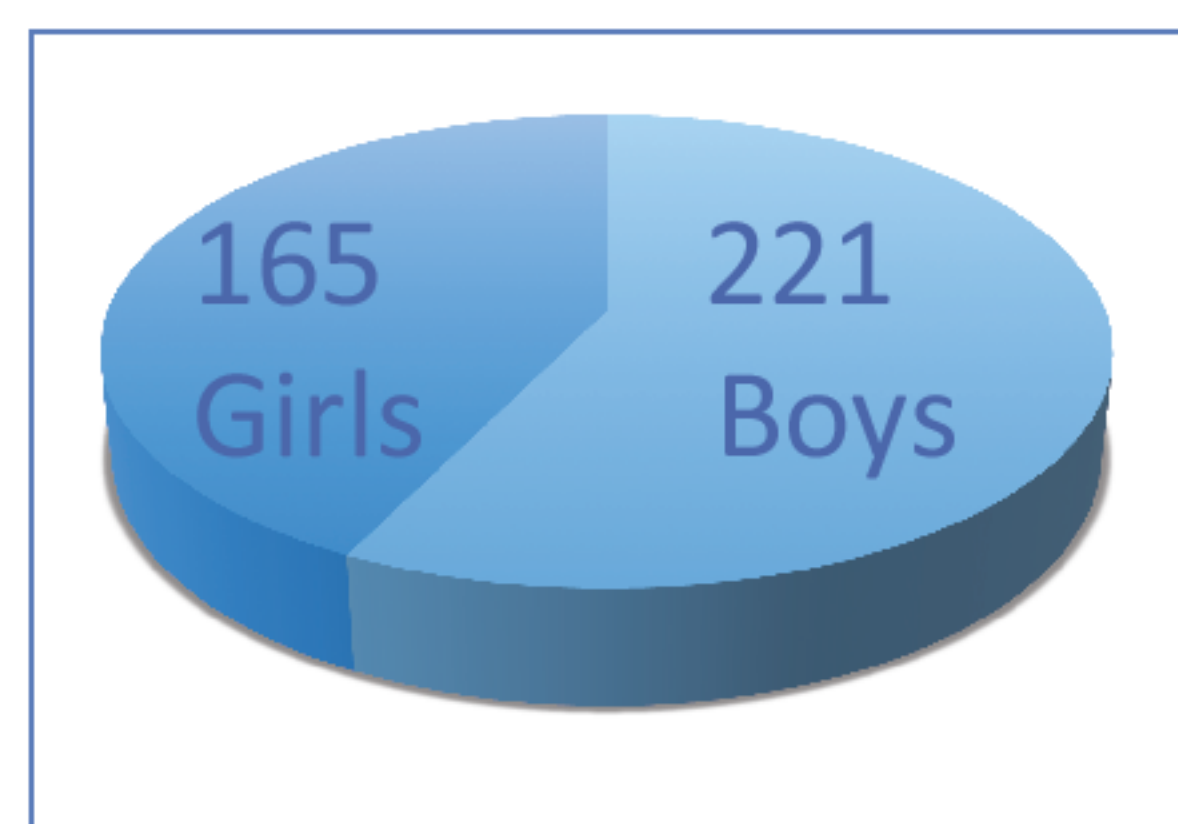
This study examines epidemiological data in patients under 15 with childhood T1DM treated in a tertiary referral hospital in the community of Navarra, in the period 1980-December 2014.

METHOD

We carried out a retrospective study of children under 15 diagnosed with T1DM between 01/01/1980 and 31/12/2014 in Navarra. Information was collected from Local Hospitals, Primary Care Centers and The Diabetes Association of Navarra. Mark and recapture method was used. Incidence rates were calculated and a Poisson regression model employed as the most suitable to analyze changes in the rate of incidence over time.

RESULTS

Total of 386 new cases between 01/01/1990 and 31/12/2014



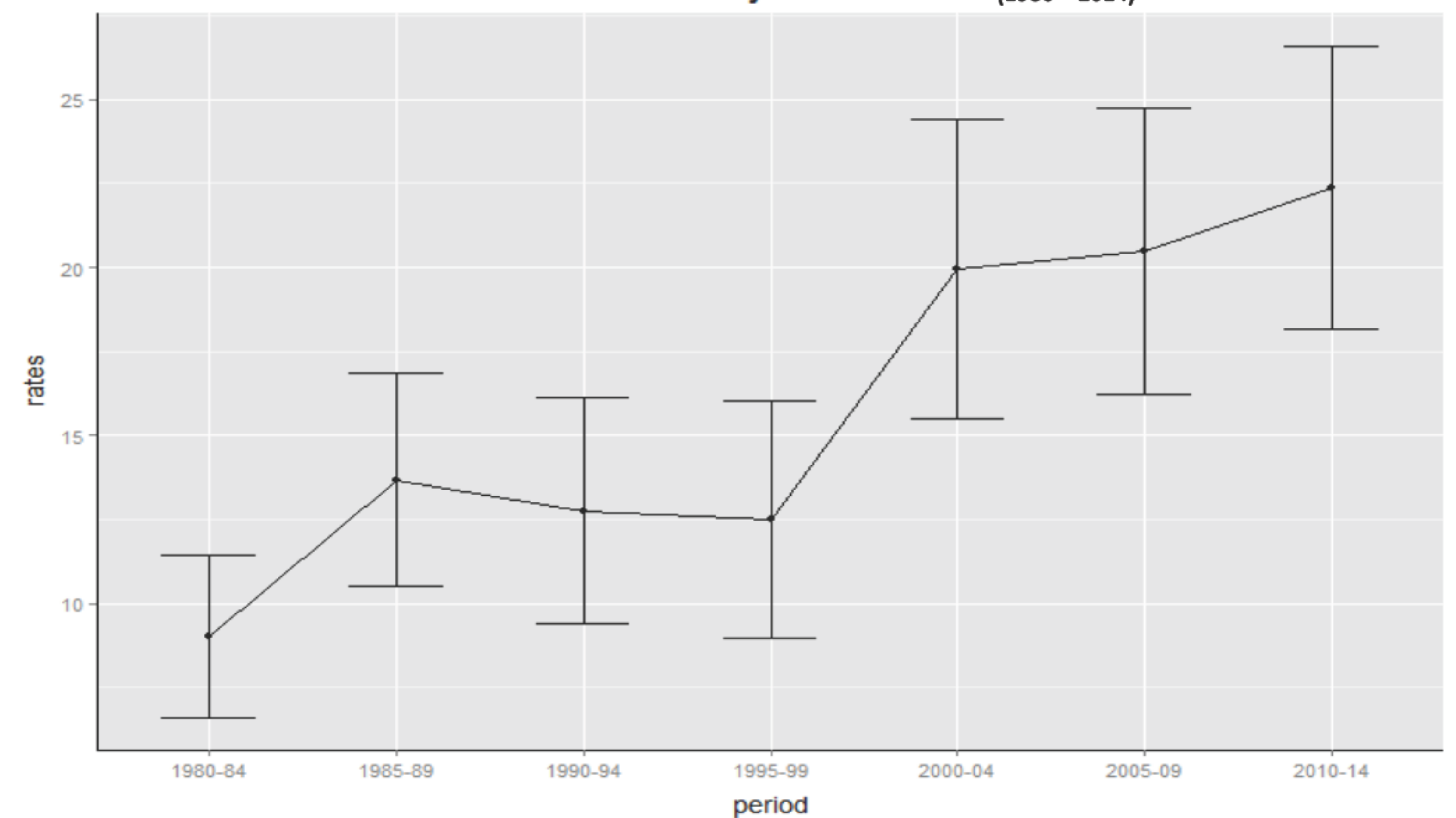
Incidence of T1DM (cases /100,000/ year) by age and sex. Navarra 1990-2014.

Group age	Cases	People/years	Incidence	95% CI	p*
0-4 years	78	687066	11.3	7.5-15.5	0.87
Male	42	353751	11.9	8.3-15.5	
Female	36	333315	10.8	7.3-14.3	
5-9 years	132	700675	18.8	15.6-22.2	0.66
Male	72	361101	19.9	15.3-24.5	
Female	60	339574	17.7	13.2-22.2	
10-14 years	176	741560	23.7	20.2-27.2	0.147
Male	107	383122	27.9	22.6-33.2	
Female	69	358438	12.2	7.7-16.7	
< 15 years	386	2,129,301	18.1	16.3-19.9	0.284
Male	221	1,097,974	20.1	17.5-22.7	
Female	165	1,031,327	15.9	13.5-18.3	

*Results of the test comparing incidence between males and females

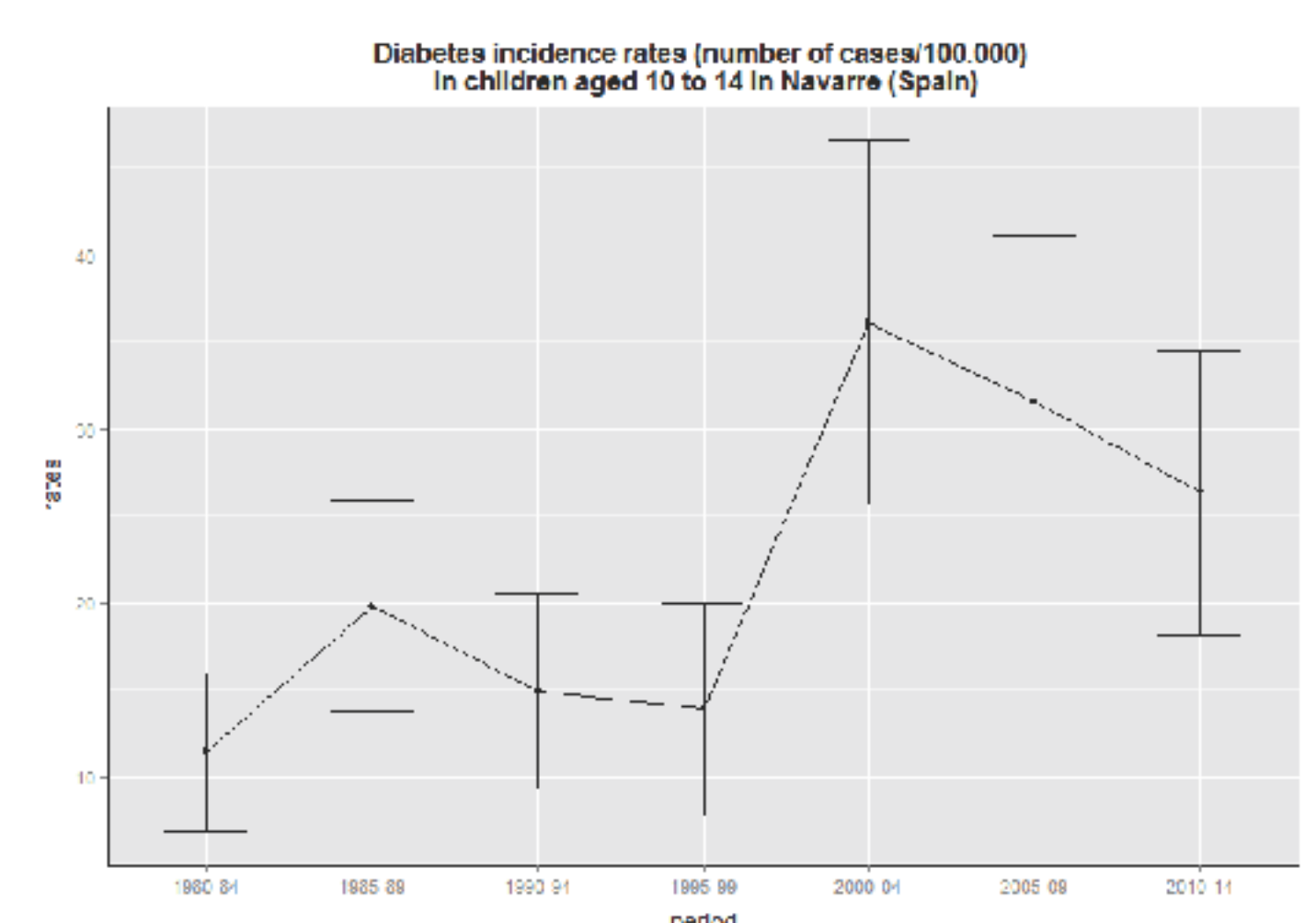
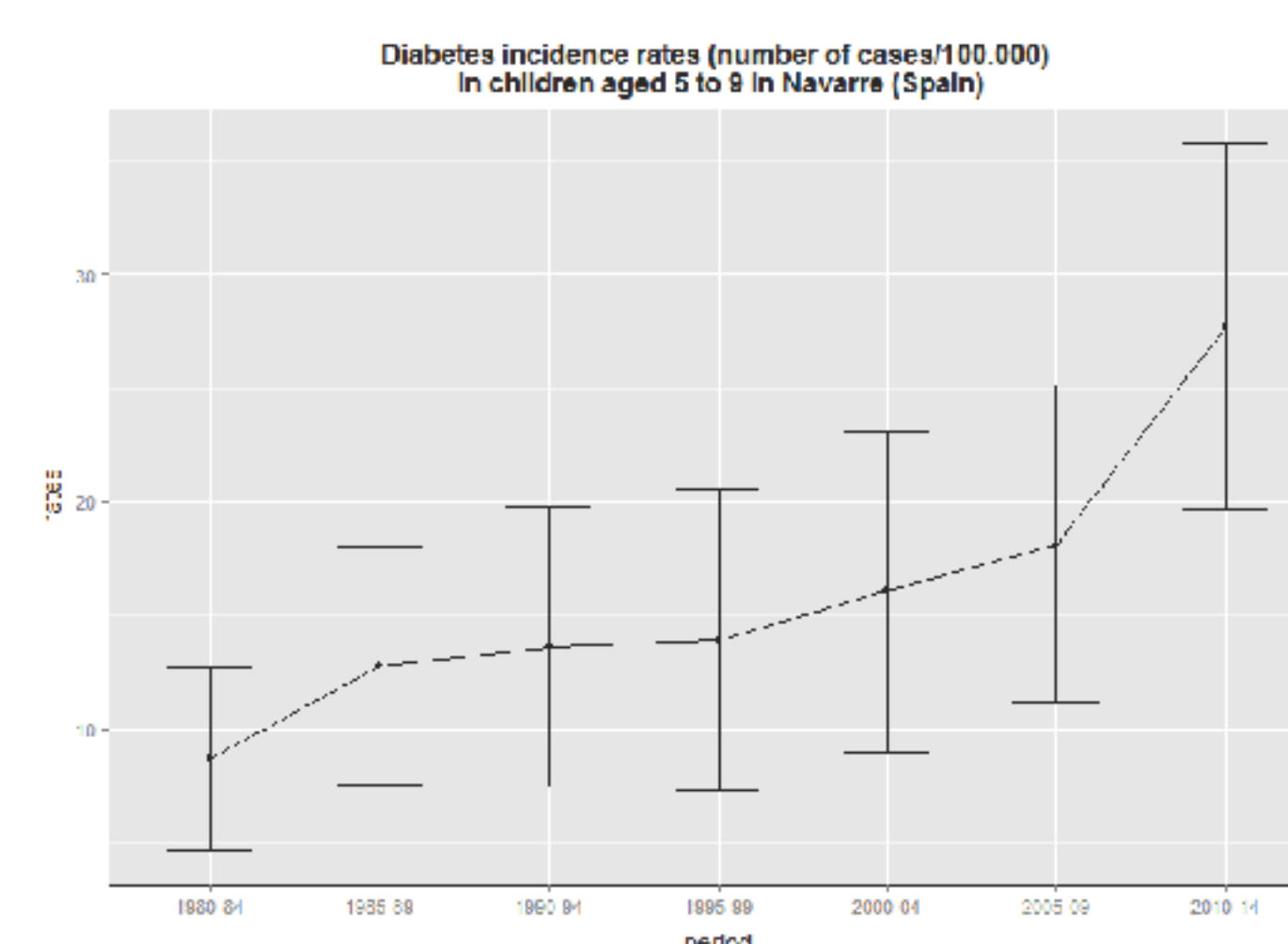
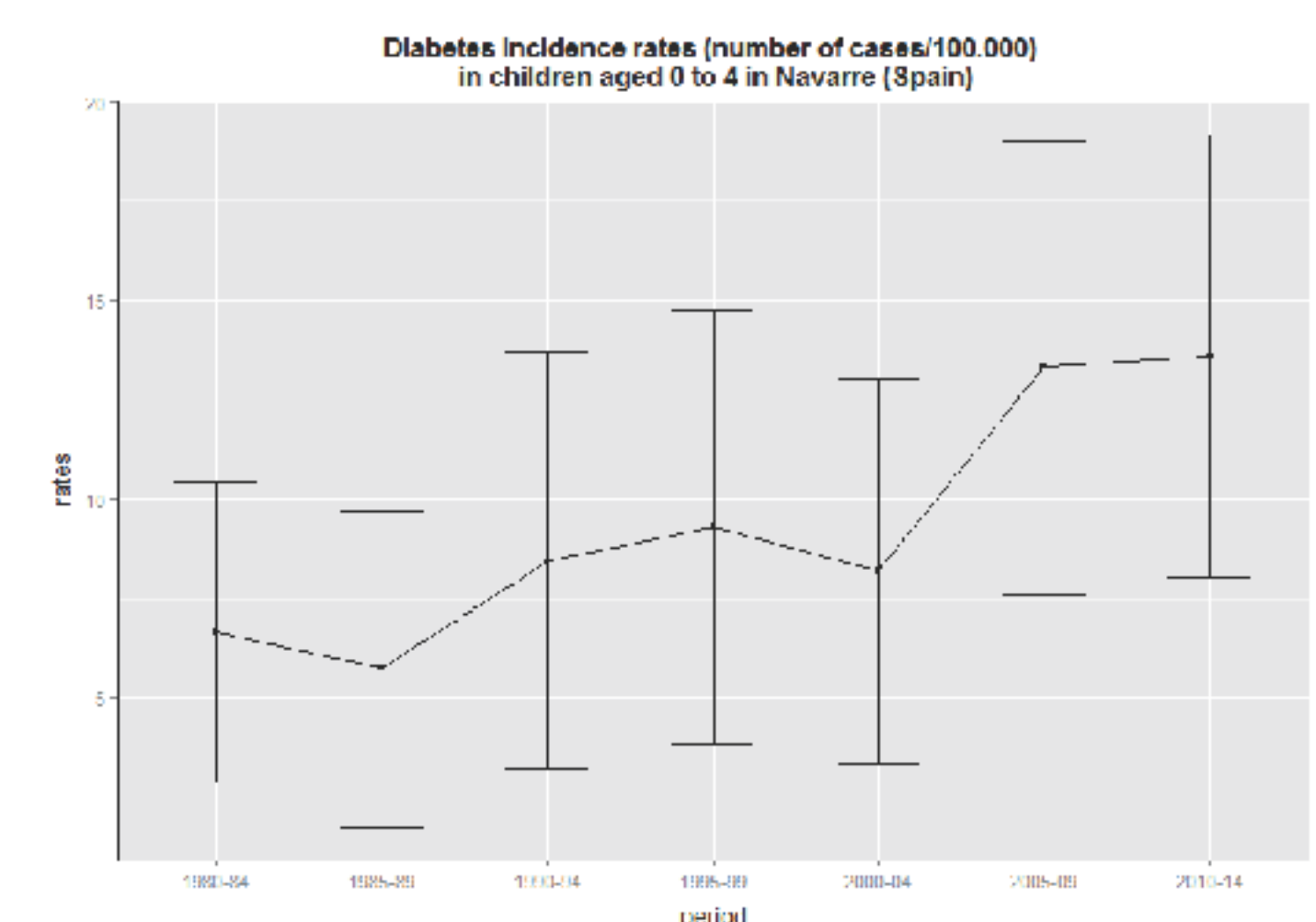
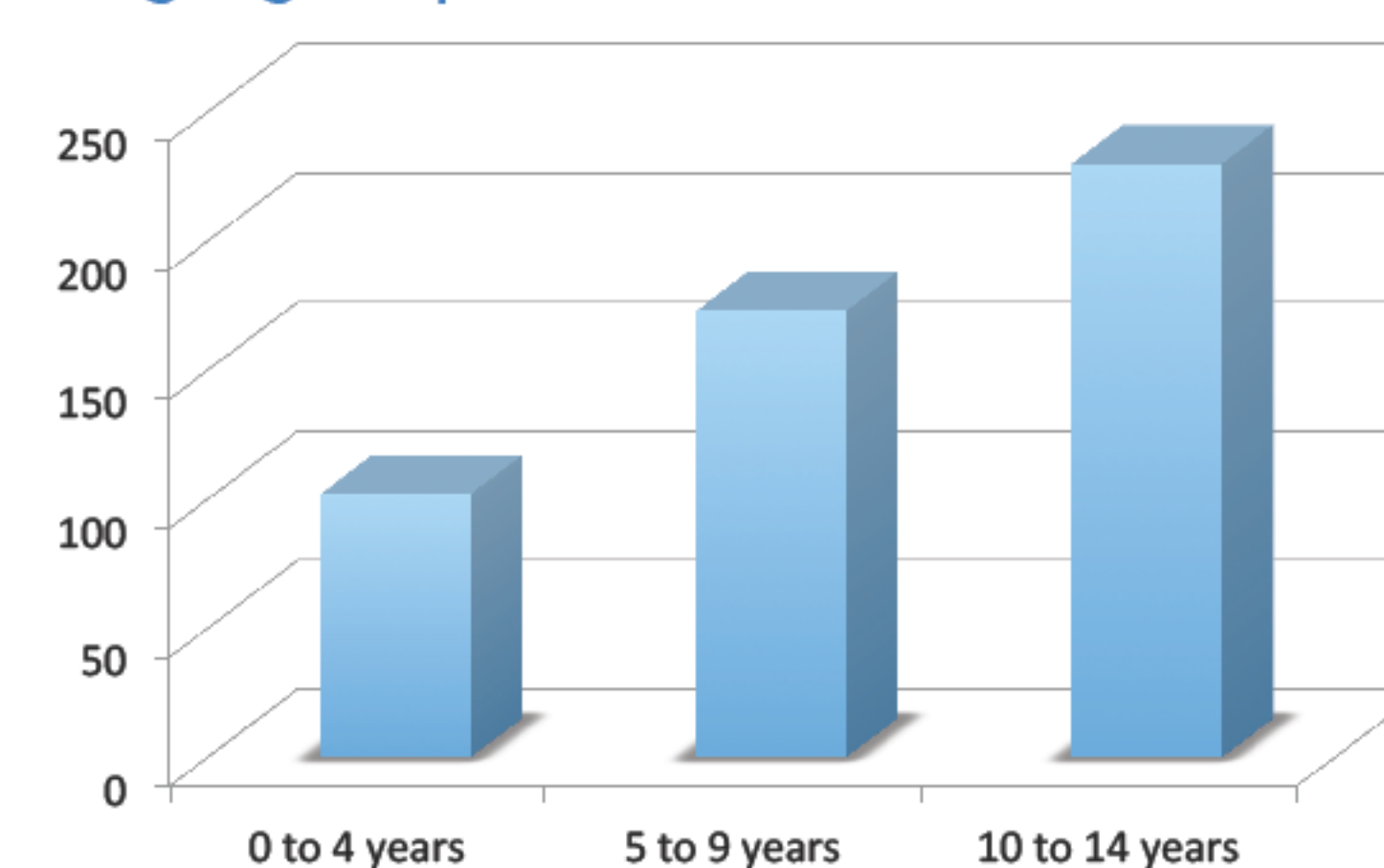
- Average incidence rate: 18.1/100,000 children
- Average age: 8.87 years
- Age range: 12 months to 14,95 years
- Highest incidence rate by age group → 10y -14y (23.7/100.000).
- Mark and recapture method was used with a 99.9 % of exhaustivity.

Diabetes incidence rates (number of cases/100.000) in children under 15 years in Navarra (1980-2014)



The Poisson regression model showed a significant increasing trend in incidence rates ($p < 0.001$), being the annual average change factor 1,031 (IC 95% 1,022-1,040).

Age groups:



CONCLUSION

The incidence of T1DM in children under 15 years old in Navarra has clearly increased over time from 1980 to 2014. The age group with the highest incidence is from 10 to 14 years. Nevertheless, groups 0-4 years and 5-9 years have a clear increasing tendency through all the study period, while the incidence rate of the group diagnosed between 10-14 years has decreased in the past decade.

