

Analysis of Demographic Data in Children with Diabetes Mellitus who has Visited the Office of Pediatric Endocrinology in Stara Zagora for the Period 1990-2020

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- Introduction: Type 1 diabetes mellitus (T1DM) is a disease with considerable variation in clinical presentation and progression. Epidemiological studies are the key to unravelling the still incompletely understood etiology and pathogenesis.
- Aim: To analyze demographic data (age, sex, place of residence, ethnos and age of starting of T1DM) for a period of 30 years
- Material and methods: Longitudinal study of 184 children following up in a children's endocrinology office in the city of Stara Zagora in the period 1990-2020

Material and methods

- The analysis is a descriptive representation of patient demographics at their first office visit.
- The statistical processing was done using SPSS Statistics 26, one simple t-test, one-way ANOVA, Chi-Square tests
- Patients were divided in 3 intervals, Figure 1

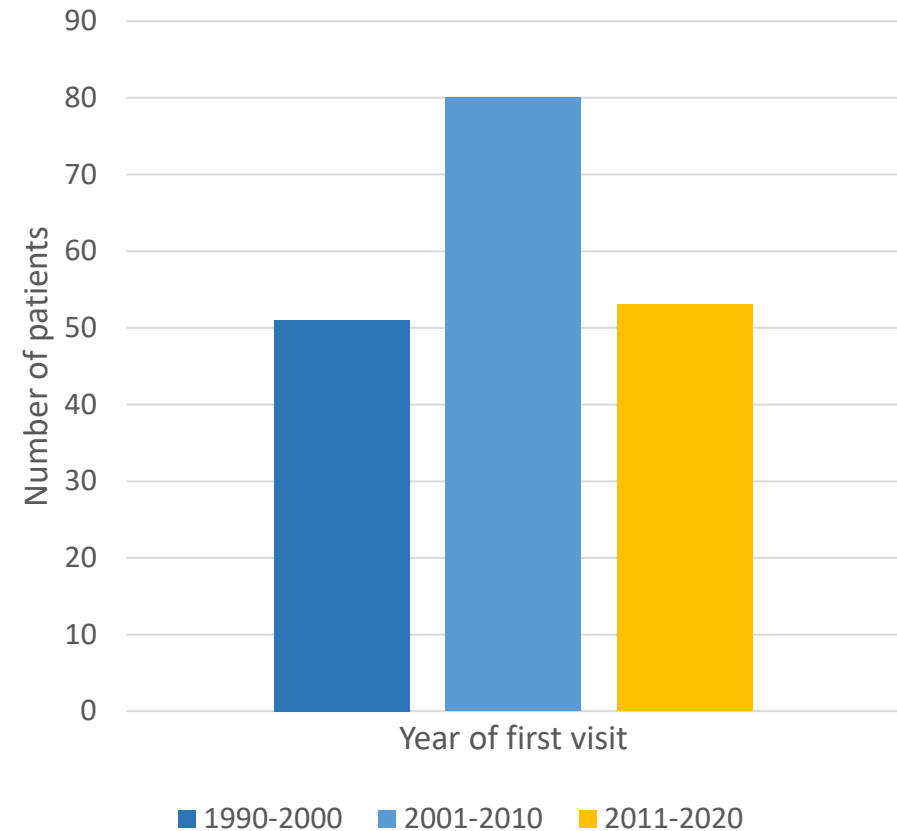


Fig.1 Number of patients presenting to the office compared to the year of first visit

Results

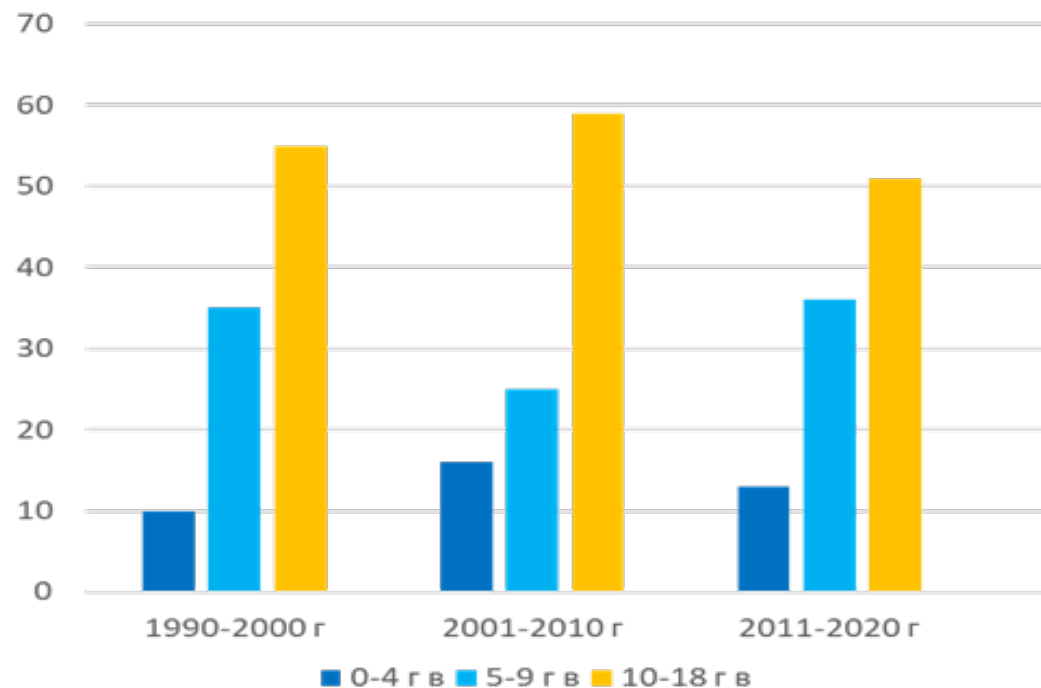


Fig.2 Distribution by age

Youngest patient presenting was 1y. 2m.

For the three time periods, patients aged 10 – 18 were more prevalent: 55-59-51%.

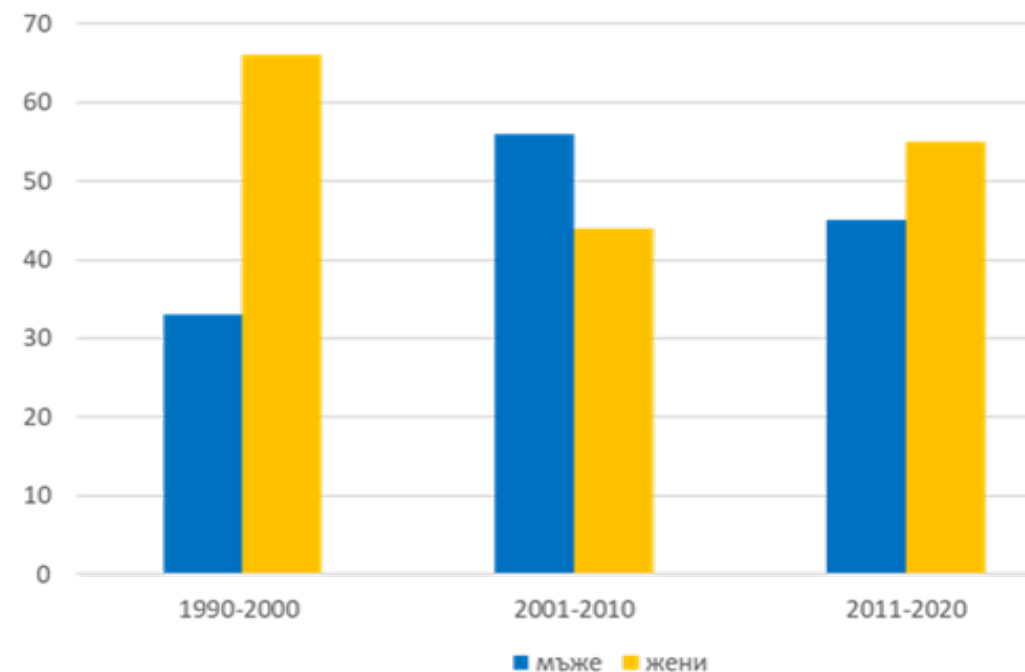


Fig.3 Distribution by gender

Results indicate that there is a dominance in the male gender($p=0.036$).

Results

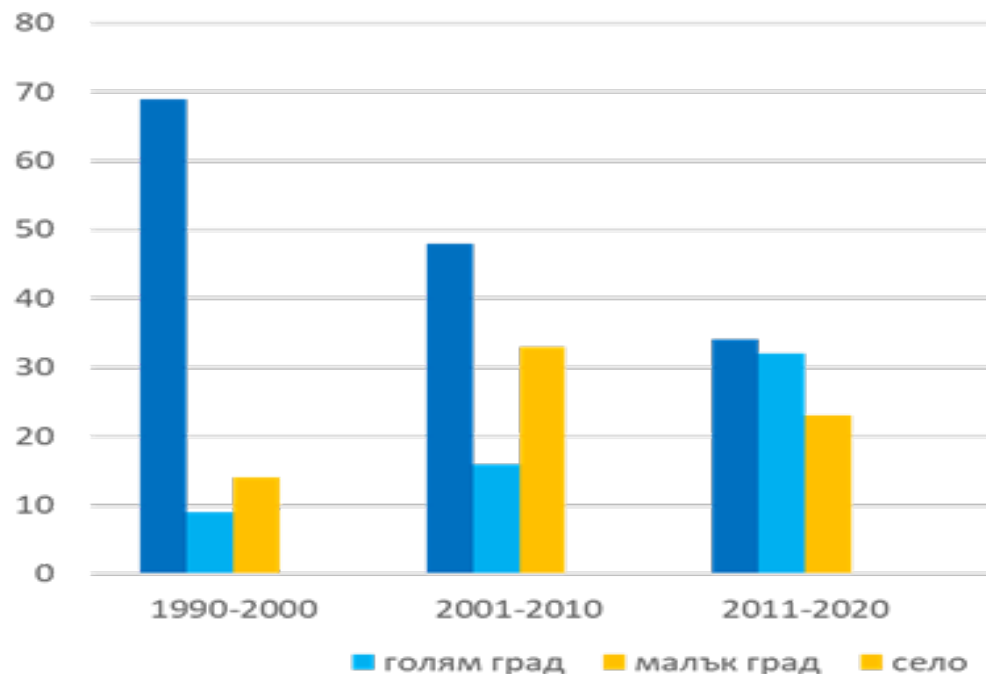


Fig.4 Distribution by places of living

In the interval 2011-2020, there was a significantly higher difference in morbidity in patients from small towns and villages compared to large cities ($p=0.001$).

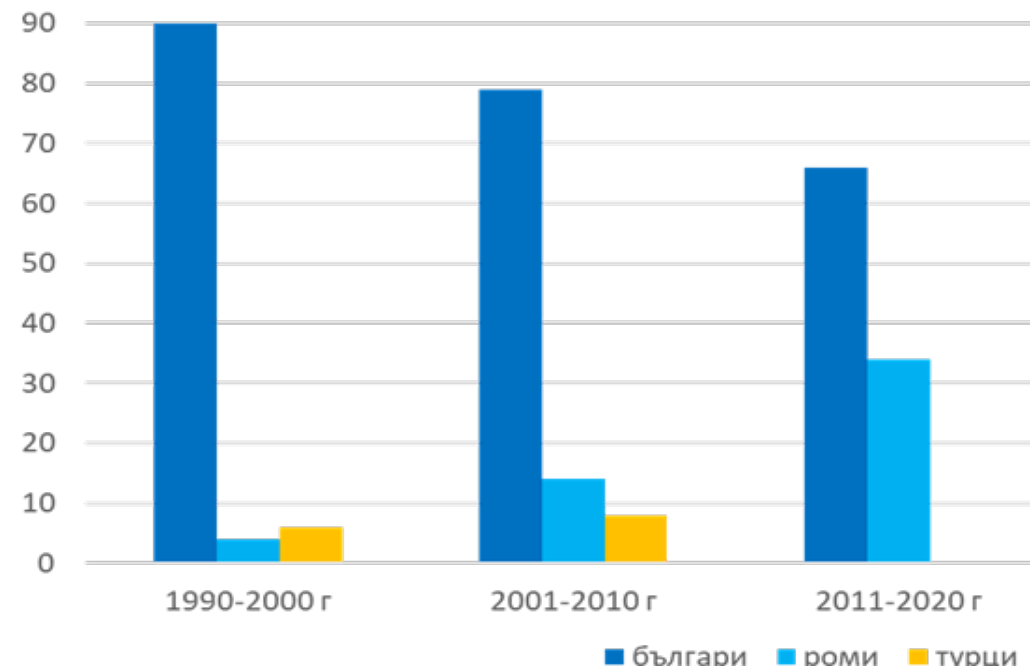
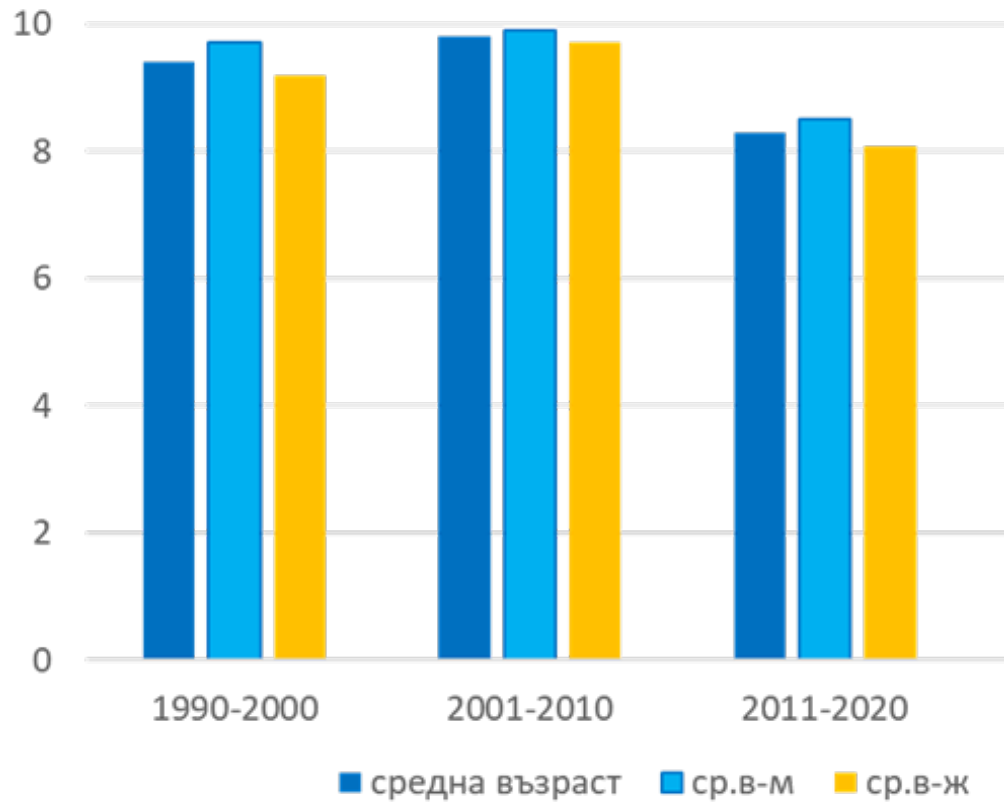


Fig.5 Distribution by ethnicity

In the interval 2011-2020 there was a significantly higher difference in morbidity in the groups of Bulgarians ethnic groups ($p>0.011$) compared to other ethnic groups and previous years.

Results



In the three allocated intervals, the average age of onset of T1DM was 9.44 - 9.86 and 8.67 respectively ($p=0.316$).

Fig. 6 Median age of onset of T1DM

Discussion

- Age: Our data does not show a significant increase in T1DM in the groups up to 9-year-olds, respectively the largest number of children affected by T1DM remains at school age
- Gender: T1DM affects both genders almost equally, being more common in males and more pronounced after 15 years of age. In countries with a low incidence, such as Bulgaria, it more often affects the female sex. A possible reason for the male predominance in our study is that in the largest 2001-2010 cohort, the number of males was higher.
- Place of residence: those living with T1DM in the last group 2011-2020 have practically the same distribution by place of residence. The possible reasons for this are changes in people's lifestyles - searching for and consuming ecological food, imposing a healthy lifestyle, changes in personal finances and physical activity
- Average age of onset of T1DM: School age again remains riskiest at diagnosis and longest at treatment. It is a challenge to create systematic training for health workers, teaching and non-teaching staff in schools, alongside motivation and emotional support from schools to patients and encouraging other students to a healthy lifestyle

Conclusion

T1DM in childhood is a serious health, social and psychological problem.

The dynamics of modern life require periodic skills improvement of medical specialists and dynamic adaptation of the legal framework concerning children's health.