



79th



International
Scientific
Conference of
the University
of Latvia

On incidence of type 2 diabetes mellitus in Kazakhstan

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Summary slide

Background. Referring to WHO, approximately 463 million adults (20-79 years) are living with diabetes and it expected that by 2045 this will rise to 700 million.

Objective. The aim is to study the incidence of T2DM in Kazakhstan and highlight epidemiologic trends.

Materials and methods. The study period was 10 years (2009-2018), the data of the Ministry of Health of Kazakhstan on new cases of T2DM (ICD – E11) in children, adolescents, adults and the entire population. Incidence rates on 100,000 population, 95% confidence interval, equalized indicator of the average annual growth rate have been analyzed using the generally accepted methods of descriptive and analytical epidemiology.

Results

Over the period of study, 283,331 new cases of T2DM were registered, of which 99.9% were adults (table).

In the dynamics, the indicators tended to grow from 131.6 ± 0.9 (2009) to 198.9 ± 1.1 in 2018 ($t=47.35$, $p=0.00$). In the studied groups the highest rates were found among adults. While children and adolescent groups have the lowest ones. At the same time, differences in the incidence among these population groups were statistically significant ($t=7.00$; $p=0.00$).

| Age group | Number (%) | $P \pm m, \text{‰}_{0000}$ | 95 % CI, ‰_{0000} | T, % |
|---------------------|------------------------|-----------------------------------|----------------------------|-------------|
| Children (under 15) | 249 (0.09) | 0.6 ± 0.05 | 0.5-0.6 | +3.2 |
| Adolescent (15-17) | 143 (0.05) | 2.0 ± 0.2 | 1.6-2.4 | +0.8 |
| Adults (18+) | 282,939 (99.86) | 236.6 ± 9.8 | 217.4-255.8 | +5.0 |
| Total | 283,331 (100.0) | 165.3 ± 6.4 | 152.8-177.7 | +4.7 |

Conclusions

The analysis of the data proved that the dynamics of the growth rate indicator and very high level of approximation cause concern. The results of the study show that T2DM is a problem in the adult population mainly, and more detailed study of age groups is necessary. Moreover, high growth rates in children under 14 years of age are alarming. Therefore, it should be noted that this issue requires further study.