INTRODUCTION
Worldwide, there is a tendency to an increase in the number of patients with diabetes mellitus. After cardiovascular disease and oncology, this disease takes the third place, being ahead of HIV and tuberculosis. According to the latest data from WHO and the International Diabetes Federation (IDF), about 382 million people on our planet suffer from diabetes mellitus today. It is projected that by 2035 this figure will have risen to 592 million, and the number of deaths due to the disease will increase by more than 50% [1]. Diabetes mellitus can occur at any age and continue throughout life. There are a lot of factors that cause this disease; among them one may name stress, hypodynamia and obesity. Hereditary predisposition is also observed.

According to the Ministry of Health, 1.3 million patients with diabetes have been officially registered in Ukraine, including 9.5 thousand children. It has been stated that the number of young patients increases every year [2]. 98% of children have the first type of diabetes when the pancreas does not secrete insulin. In children, diabetes has a very severe course and can lead to high and early disability.

Since the beginning of 2017, about 47,000 patients with diabetes have been registered in the Poltava region, of which 8347 adults and 309 are children receiving insulin.

THE AIM
The aim of this research was to study and analyze the dynamics of prevalence, incidence and disability of diabetes mellitus among children aged 0-17 years in the Poltava region over the period of 2008-2017.

MATERIALS AND METHODS
The data of statistical reports of medical institutions and the Center of Medical Statistics of the Ministry of Health of Ukraine over the period of 2008-2017 was analyzed. The obtained data was processed using the MS Office 2010 software package.

Review:
We have found that the prevalence of diabetes mellitus among children under the age of 17 in the Poltava region is constantly growing. In 2008, the prevalence of diabetes among children aged 0-17 years was 1.11. In 2017, the index was 1.32. Regarding the incidence, the indicator also gradually increased, in 2017 it was 0.21 versus 0.12 in 2008. Having analyzed the disability of diabetes among children, it is evident that the total disability is gradually increasing. If in 2008 there were 185 children with diabetes mellitus, then in 2017 there were 256 people (disability index 0.72 and 1.09, respectively). The primary disability among children in 2017 was 0.19, in 2008 it was 0.09, respectively.

Conclusions:
The presented research allowed to study and analyze the incidence, prevalence and disability of diabetes mellitus among children from 0 to 17 years old in the Poltava region over the period of 2008-2017.

KEY WORDS: diabetes mellitus, children, prevalence, incidence, Poltava region
- indicators of the prevalence of diabetes mellitus in the region for 2008-2017 years,

The obtained data was processed using epidemiological and medical statistical methods using the MS Office 2010 software package.

**REVIEW AND DISCUSSION**

The incidence and prevalence of the disease are among the main indicators characterizing the health of the adult and child population [13]. We have found that the prevalence of diabetes mellitus among children under the age of 17 in the Poltava region is constantly growing. In 2008, the prevalence of diabetes per 1,000 population among children aged
In 2017, the index increased significantly and amounted to 1.32 (increased by 19%). If by 2012 the prevalence of the disease was decreasing, then since 2013 there has been a tendency to an increase in the prevalence of diabetes mellitus among children under 17 years old (Fig. 1). Comparing the prevalence of diabetes among urban and rural population, it can be said that over the past 10 years the growth rate among rural children is negative and amounts to 0.03 (decreased by 3%), while the growth rate among urban population is constantly increasing, and for the last 10 years it amounts to 0.28 (that is 28%), which can be explained by irrational nutrition, frequent stress and untimely addressing to medical institutions (Fig. 2).

When studying the structure of the prevalence of dia-

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**Fig. 4.** The Incidence of Diabetes Mellitus in Children Aged 0-17 Years per 1,000 Child Population, since 2008

**Fig. 5.** The Incidence of Diabetes Mellitus among Urban and Rural Population

**Fig. 6.** The age structure of the incidence of diabetes among children in 2017
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In 2017, it was established that the disease is most rapidly spreading among children of 7-14 years old and amounts to 57% (Fig. 3).

Regarding the incidence, the index also gradually increased, in 2017 it was 0.21 versus 0.12 in 2008, that is, increased by 75% (Fig. 4). This can be explained by the late address of parents to medical institutions, because in recent years diabetes mellitus has been hidden under the masks of infections and acute respiratory viral infections, passive way of life, obesity, harmful habits and unbalanced nutrition.

In the period from 2008 to 2017, the tendency to the increase in the incidence rate among children from 0 to 17 years of the rural areas of the Poltava region, has a wave-like character with a peak in 2009 and 2016 with an index...
of 0.14. Over the last year there has been a decrease in the incidence rate to 0.11, that is, decreased by 21%. Among urban population, a wave-like character is also observed, but the highest peak of the incidence was observed in 2016 with an index of 0.28. Over the past year, the incidence rate has decreased to 0.27 (by 4%, respectively) (Fig. 5).

When studying the structure of the incidence of diabetes among the child population of different age groups in 2017, it was found that the primary disease incidence is most common among children aged 7-14 years and is 59% (Fig. 6).

The analysis of the structure of the prevalence and incidence of diabetes showed that during the time of study, the growth rate was constantly increasing. It can also be said that the incidence of diabetes mellitus is somewhat lower among rural children.

Regarding infant mortality from diabetes mellitus, in the last 10 years not a single case has been registered in the Poltava region.

Having analyzed the disability of diabetes among children aged 0 to 17 years, it is evident that the total disability is gradually increasing. If in 2008 there were 185 disabled children with diabetes mellitus, then in 2017 there were 256 people (disability index 0.72 and 1.09, respectively). Total disability over the last 10 years has increased by 51%. Primary disability among children under 17 years old in 2017 was 0.19, and in 2008 it was 0.09, respectively (Fig. 7). Primary disability has increased by 111% over the last 10 years. The growth rate over the past 10 years is 1.11 (111%, respectively).

Having analyzed the dynamic range of diabetes prevalence among children from 0 to 17 years old in the Poltava region, it has been found that the growth rate of the total prevalence is gradually increasing. But for several years there was a decrease in the growth rate (by 5% in 2009, by 4% in 2012, and by 1% in 2015) (Table 1).

Having analyzed the dynamic range of diabetes incidence among children from 0 to 17 years old in the Poltava region, it has been found that the growth rate of the total incidence varies from 0.20 in 2011 to 0.70 in 2013. But if to compare 2008-2017, it can be said with certainty that over the past 10 years the growth rate in the total incidence is 0.75 (increased by 75%) (Table II).

CONCLUSIONS

According to statistics for the last decade, the number of young patients with diabetes mellitus in the Poltava region has increased. The fastest growth rates in the prevalence of the disease have been found in children 7-14 years old. Childhood disability is one of the acute medical and social problems of the 21st century. In terms of the frequency of disability, this pathology is on 3rd place, being second only to cardiovascular and oncological diseases [14].

This testifies to the need for the introduction of comprehensive measures to prevent diabetes mellitus and its complications in children. It is important to detect the disease at an early stage, thus it will help reduce its negative effects and take it under control. The urgent task for modern researchers is to stop the epidemic of diabetes, which is a serious problem for our country [15,16].

In general, the research presented allowed to study and analyze the incidence, prevalence and disability of diabetes mellitus among children from 0 to 17 years old in the Poltava region over the period of 2008-2017.

REFERENCES


Authors’ contributions:
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Conflict of interest:
The Authors declare no conflict of interest

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