

Peculiarities of the Dynamics of Morbidity of allergic Diseases among Children of Tashkent

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ABSTRACT:

Allergic diseases (AD) are one of the main problems of modern world health care. They take one of the leading places in the structure of general and primary morbidity worldwide, both among adults and among children under 18 years of age.

This article presents the dynamics and prevalence of the main forms of AD among children and adolescents in Tashkent for the period from 2015 to 2019. Areas with the highest incidence rates have been identified. In the structure of morbidity by sex and age, the majority of patients are boys and adolescents, respectively.

Keywords: allergic diseases, allergic rhinitis, bronchial asthma, morbidity, children, adolescents.

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Nurmamatova K.Ch. **Features of the dynamics of the incidence of allergic diseases among children in**

Tashkent. 2021DOI :<https://orcid.org/0000-0001-6903-0759>

Introduction

Allergic diseases (AD) occupy one of the leading places in the structure of general and primary morbidity throughout the world, both among adults and among children under 18, and are one of the main problems of modern world health care [4, 5, 6, 7, 8, 9, 10, 12, 14]. Many authors note fluctuations in the incidence of AD depending on the region of residence [1,2,10,13].

Tashkent is the capital of the Republic of Uzbekistan, the largest industrial city in the country. Almost a fifth of the republican volume of the country's industry falls on Tashkent. The city has the largest aviation, railway and automobile hubs in the country. All this worsens the ecology of the area and thereby contributes to the development of NCDs among the population

of the city, including AD, especially among children under 18 years of age.

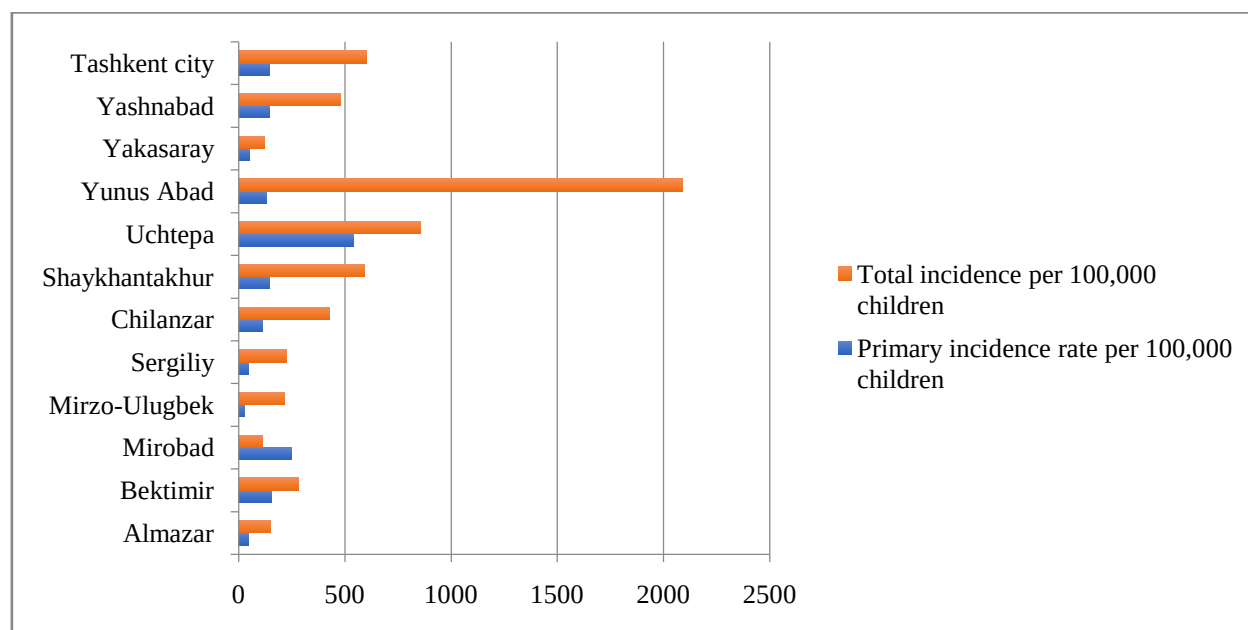
Among allergic diseases in children, allergic rhinitis and bronchial asthma are most often recorded. The prevalence of AR in various climatic and geographic and economic regions of the world varies from 10 to 25% of the total population. AR symptoms occur in 8.5% (1.8-20.4%) in 6-7-year-olds and 14.6% (1.4-33.3%) in 13-14-year-old children (International Bronchial Asthma Study and allergies in childhood: International Study of Asthma and Allergy in Childhood (ISAAC) [8].

Bronchial asthma (BA), due to the high frequency of occurrence and its chronicity, is a significant social problem in many countries of the world, including Uzbekistan. Turaeva (2015) in Uzbekistan, BA occurs in 28.4% of eighth-graders and 18.8% of first-graders. The author focuses on the fact that the data obtained are several times higher than the data of official statistics [3,4,5].

Research materials and methods: To study the dynamics of the general and primary morbidity of AZ in the city of Tashkent, the statistical data of the city health department for 2015-2019 were used, presented in the annual reports "On the number of diseases registered in patients living in the service area of the healthcare facility" (Form №12) in the districts of the city. Based on the data obtained, the indicators of primary and general morbidity were calculated per 100,000 children aged 0 to 14 years old and adolescents aged 15 to 18 years old, the structure of morbidity by diagnoses and age groups was determined.

Results and discussion : From 2015 to 2019 in Tashkent, the average periodical rate of primary AR incidence among children was 147.7 ± 4.8 per 100,000 child population. The overall prevalence of AR in the city on average for the same period was 603.5 ± 9.7 per 100,000 child population.

city (per 100,000 children)



Picture 1

Average-period incidence rates of AR up to 14 years for the period 2015-2019 in Tashkent

It should be noted that the levels of general and primary morbidity in the districts have different levels. In areas where the primary incidence rate is relatively higher, the overall incidence rate is much lower. In other areas, the opposite pattern can be seen, where the primary incidence rate is low and the overall incidence rate is relatively high. The highest average periodical indicators of primary and general AR morbidity among children under 14 years old were observed in Uchtepa region (543.1 ± 26.9 and 855.0 ± 33.7 , respectively), while in Mirobad region the level of primary morbidity exceeded the average city level by 1.7 times. as the overall incidence of AR (112.2 ± 19.6) was one of the lowest in the city (Fig. 1). The highest level of general AR morbidity was noted in Yunus-Abad district (2089.8 ± 47.9), where it exceeded the average city level by 3.5 times, while the primary morbidity in this region was quite low 132.1 ± 12.2 . The lowest rates of both primary and general morbidity were noted in Almazar 47.8 ± 7.1 and 149.1 ± 12.5 , respectively, MirzoUlugbek 28.9 ± 6.6 and 218.3 ± 18.0 , respectively, Sergiliy 47.9 ± 9.6 and 227.6 ± 20.8 , respectively, and 53.8 ± 15.9 and 124.2 ± 24.2 in Yakkasaray,

respectively.

The disproportionality between the indicators of general and primary morbidity observed in some districts of the city –YunusAbad, Mirabad, Yashnabad, Shaikhantakhur, Sergeliy and Chilanzar is probably associated not so much with the success in the treatment of children with AR as with defects in medical examination, outflow of patients to private clinics or shortcomings in statistical accounting.

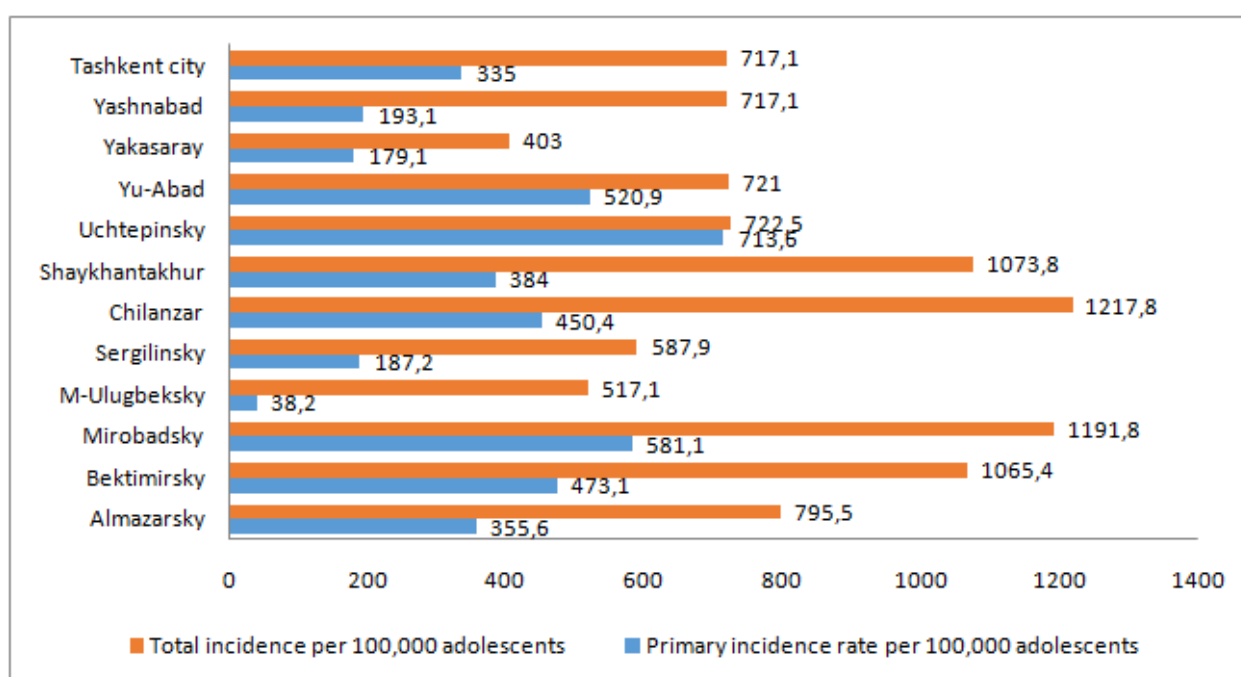


Figure 2.

Average periodic AR incidence rates per 100,000 adolescents for the period 2015-2019 in Tashkent

The average periodical indicators of primary and general AR morbidity among adolescents in Tashkent amounted to 335.0 ± 14.7 and 717.1 ± 21.5 per 100 thousand adolescents under the age of 18, respectively. The highest average periodical rates of primary AR incidence among adolescents (Fig. 2) were observed in Uchtepa (713.6 ± 79.5), Mirabad (581.1 ± 104.0), Yu-Abad (520.9 ± 70.0), Bektemir (473.1 ± 150.9) and Chilanzar (450.4 ± 64.9) districts, where they exceeded the average city level of 2.1; 1.7; 1.6; 1.4 and 1.3 times. The

indicators of general morbidity among adolescents were above the average level in Chilanazar (1217.8 ± 106.4) and Mirabad districts (1191.8 ± 148.5), exceeding 1.7 times, in Bektemir (1065.4 ± 278.1) and Shaikhantakhur (1073.8 ± 94.6) districts by 1.5 times.

The lowest rates of general AR incidence among adolescents were noted in MirzoUlugbek, (517.1 ± 84.7) Yakkasaray (403.0 ± 89.4) and Sergeliy (587.9 ± 31.4) districts, where in relation to indicators for the city, they were for the primary incidence of 0.1; 0.5 and 0.6 points, and for general morbidity 0.7; 0.8 and 0.6, respectively.

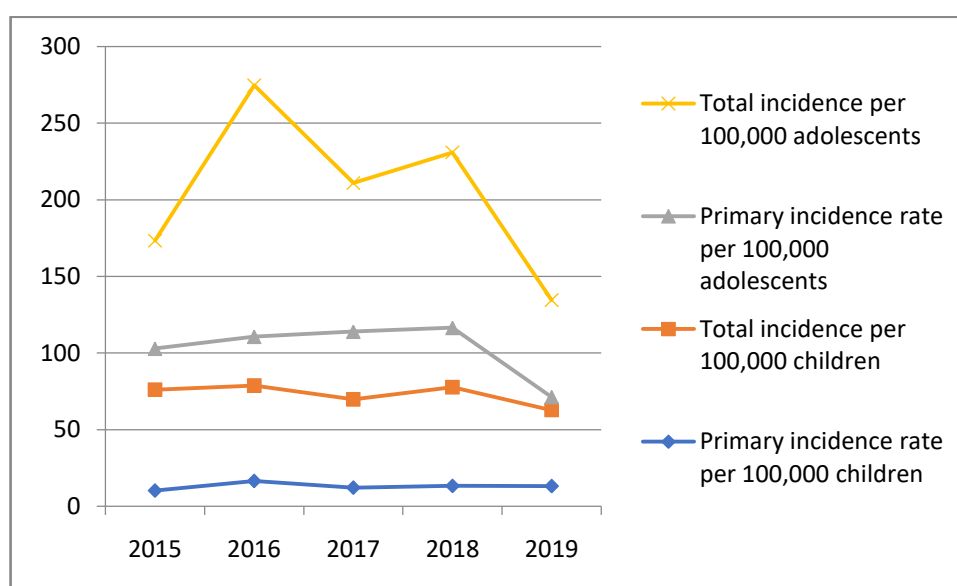


Figure 3.

Dynamics of primary and general AR morbidity per 100,000 children and adolescents for the period 2015-2019 in Tashkent

The dynamics of the prevalence of AR in Tashkent as a whole for both primary and general morbidity among both groups under consideration generally tends to decrease (Fig. 3). For five years, the primary morbidity among children has decreased by 1.2 times, while the overall one has remained practically at the same level. Among adolescents, primary and general morbidity decreased by 1.4 and 1.3 times, respectively.

As mentioned above, BA is the next most important among AD in children and

adolescents. The prevalence of this pathology is largely determined by social and environmental risk factors. Among children in Tashkent, the level of asthma morbidity is quite varied across the city districts. The average periodical rate of primary and general morbidity was 13.1 ± 1.4 and 59.9 ± 3.1 , respectively, per 100,000 children from 0 to 14 years old. These levels were taken as 1 and in relation to them the average period indicators for the regions were calculated, the scores obtained allowed us to identify the regions with the highest and lowest rates of BA prevalence.

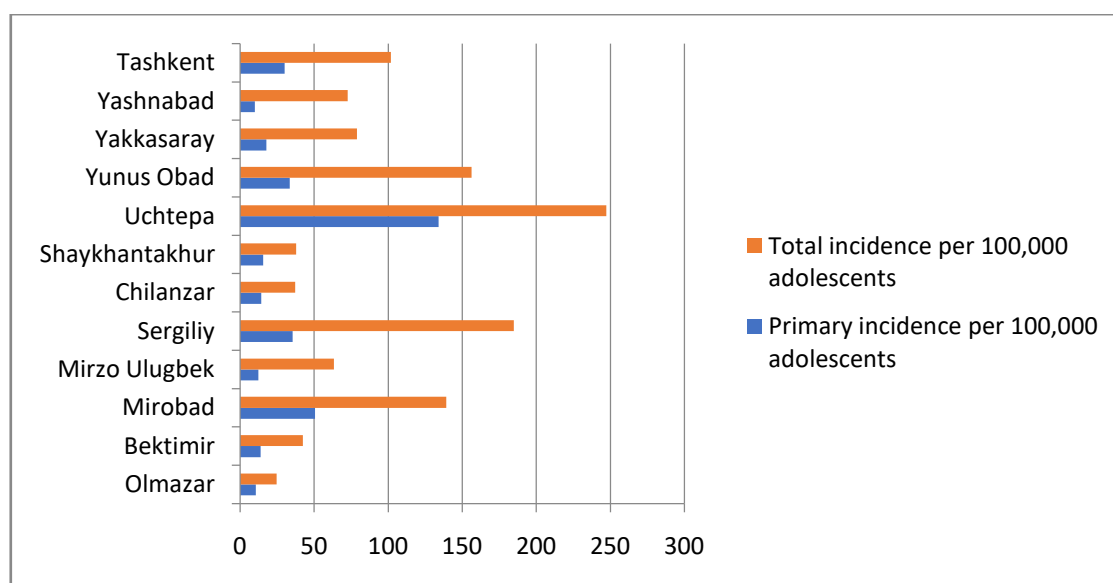


Figure 4.

**Average periodic levels of asthma incidence per 100,000 children for the period
2015-2019 in Tashkent**

The highest average periodical indicators (Fig.4) of primary BA morbidity among children were observed in YunusAbad (47.4 ± 7.3) and Uchtepa (19.1 ± 5.1) districts, which were above the average level in 3.6 and 1.5 times. In the same districts, there were also higher rates of general morbidity, so in Uchtepa district (138.7 ± 13.6) the excess was 2.3, in YunusAbad (87.1 ± 9.9) - 1.5 times, in Yashnabad (113.9 ± 14.9) - 1.9 times. The lowest rates of primary (3.1 ± 2.4) and general morbidity (32.1 ± 7.7) BA among children were noted in Sergiliy district ($P \geq 0.05$). It should be noted that in this area there were no data at all on the primary

diagnosed children with BA in 2017 and 2019, which, apparently, errors in statistical accounting could lead to unreliability of the primary morbidity rate in this area.

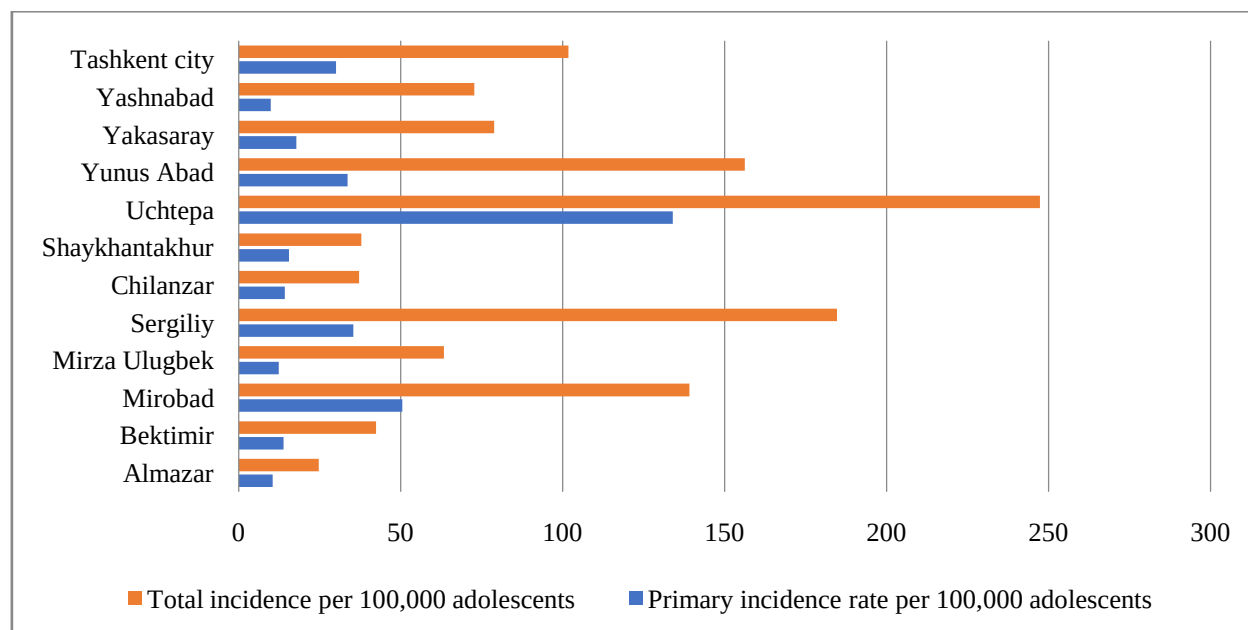


Figure 5

Average periodic levels of asthma incidence per 100,000 adolescents for the period 2015-2019 in Tashkent

A similar situation was observed in Bektemir district, where the primary morbidity was 6.4 ± 7.5 ($P \geq 0.05$) per 100,000 children (0.5%) due to the fact that there were no data for 3 years out of 5 examined, while the indicators for the existing 2 years are quite high, and the overall morbidity is not only decreasing, but also increasing from year to year - the increase in the indicator in this area was 18.5% - this indicates the shortcomings in the treatment and prophylactic work of the APU of this area and the shortcomings statistical accounting.

The average periodical indicator of general and primary BA morbidity among adolescents in the whole city of Tashkent was, respectively, 30.0 ± 4.4 and 101.8 ± 8.1 per 100,000 persons from 15 to 18 years old. The highest average periodical level of primary and general morbidity per 100,000 adolescents of BA over a five-year period (Fig. 4) was observed in the Uchtepa

Received 05 March 2021; Accepted 01 April 2021.

district (134.0 ± 34.5 and 247.3 ± 46.9 , respectively), which is 4.5 and 2, 4 times higher than the city average. A high level of general and primary morbidity was noted in Mirabad district 50.5 ± 15.7 and 139.1 ± 40.1 , which is 1.7 and 1.4 times higher than the average city level. In Sergilinsky district, the primary incidence of 35.4 ± 7.7 exceeded the urban level by 1.2 times, and the total 184.7 ± 17.6 by 1.8 times. However, the incidence among younger children in Mirabad and Sergiliy districts is below the city average. Probably, there is insufficient active detection of asthma in children under 14 years of age, which requires strengthening of therapeutic and prophylactic measures in the primary health care area.

The dynamics of primary asthma incidence among children (Fig. 5) under the age of 14 in Tashkent as a whole tends to grow from 10.3 to 13.2 per 100,000 children. At the same time, the overall morbidity among them decreases from 65.8 to 49.6.

In the group of persons aged 15-18, on the contrary, a decrease in indicators is observed. The level of primary morbidity among adolescents decreased most sharply from 26.8 in 2015 to 8.5 in 2019. The overall incidence among them also decreased by 1.1 times.

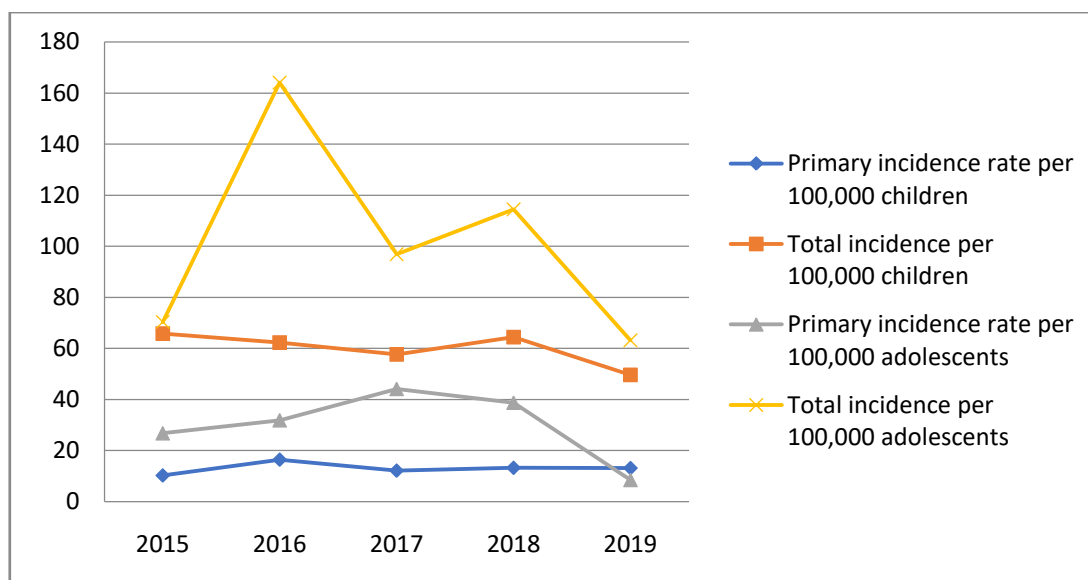


Figure 6

Dynamics of primary and general asthma morbidity per 100,000 children and adolescents for the period 2015-2019 in Tashkent

Thus, the prevalence of the main forms of AD among children and adolescents in Tashkent for the period from 2015 to 2019 is much lower than the similar incidence in Europe and Russia. The highest incidence rates were observed in some districts of Tashkent city. All this must be taken into account when developing plans for the provision of medical and preventive care.

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