MORBIDITY OF BRONCHIAL ASTHMA IN THE POPULATION OF BUKHARA REGION

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Abstract: Allergic diseases are one of the most urgent problems of modern medicine. The prevalence of bronchial asthma in children and adults in the Bukhara region was studied. The primary incidence of bronchial asthma in the age structure of the population was studied according to the coupons of an outpatient patient (form №025-12u) for 2015-2019 in 10 age groups (1-5 years, 5-9 years, 10-14, 19, 20-29, 30-39, 40-49, 50-59, 60 and older) in the city of Bukhara and twelve districts of the Bukhara region. The study of the distribution of indicators of the incidence of bronchial asthma in the Bukhara region revealed that the areas of risk for this pathology are areas with industrial zones: Karakul, Karaulbazar and the city of Kagan. The risk groups for the incidence of bronchial asthma are children under 9 years of age and adults aged 60 years and older. The prevalence of bronchial asthma ranges from 5.5 per 1,000 population in relatively clean areas of residence to 33.5 per 1,000 population in industrialized areas. Thus, the study showed that the highest incidence of general morbidity with bronchial asthma in children and adults is observed in the city of Kagan with the operation of an oil extraction plant, in the Karaulbazar district with an oil refinery and in the Karakul district with a Kandim gas processing plant. An increased risk of primary incidence of bronchial asthma exists for children aged 3 to 9 years and for adults 60 years of age and older.

Key words: Bronchial asthma, prevalence, distinctive features

Allergic diseases (AD) are one of the most urgent problems of modern medicine. This is due to the high level of their prevalence, the ongoing growth of severe clinical manifestations, which often cause a deterioration in the quality of life, disability, and in some cases deaths among the population [1].

The most serious allergic disease is bronchial asthma (BA), which is currently considered as not only a medical but also a social problem [5]. All over the world, including in Uzbekistan, there is a tendency to increase the incidence of bronchial asthma and its more severe course. Epidemiological studies indicate that in different regions of the world bronchial asthma affects from 4 to 8.2% of the population [1,4]. At the same time, in the adult population,

the frequency of bronchial asthma varies within 5%, and in the children's population it increases to 5-12% [2].

Introduction: The study of the prevalence and risk factors for the development of the incidence of bronchial asthma in children and adults in the Bukhara region.

Material and methods. A descriptive ecological epidemiological study was carried out. According to the statistical reporting form No. 12 “Information on the number of diseases registered in patients living in the service area of a medical institution”, the primary and general morbidity of the child (0-17 years) and adult (18 years and older) population in the cities and districts of Bukhara regions for 2015-2019. The primary incidence of bronchial asthma in the age structure of the population was studied according to the coupons of an outpatient patient (form No. 025-12u) for 2015-2019 in 10 age groups (1-5 years, 5-9 years, 10-14, 19, 20-29, 30-39, 40-49, 50-59, 60 and older) in the city of Bukhara and twelve districts of the Bukhara region. To analyze the emission density of pollutants from stationary sources solids, to describe the incidence, the average, minimum (min) and maximum (max) values for the corresponding time periods were used. In the spatial analysis, the average annual incidence rate in the whole of Bukhara region was taken as a control level. When studying the incidence in the age structure, the control level was taken as the average long-term incidence of the entire child (0-17 years) and the entire adult (18 years and older) population for each city and district separately. Comparison of the average incidence of bronchial asthma in the territories and in age groups with control levels was carried out using the ratio of indicators. Differences were considered epidemiologically pronounced if the ratio of indicators exceeded the value equal to 1.25.

Results and discussions. A comparative analysis of the overall incidence of bronchial asthma in the cities and districts of the Bukhara region (Table 1) among the child population revealed an excess of the incidence rate compared to the regional level in the districts Karakul, Alat and Vobkent at 1.3; 1.2 and 1.1 times, respectively. Among the adult population (Table 1), an excess of the overall morbidity rate compared to the regional level was observed in districts Gijduvan and Alat, Vobkent, Karaulbazar, the city of Bukhara at 1.5; 1.4; 1.4; 1.3 and 1.32 times, respectively. In other territories, the overall incidence of bronchial asthma among children and adults did not exceed the average level.

Table 1

General and primary incidence of bronchial asthma in the city and districts of the Bukhara region for 2015-2019 (per 10,000 of the corresponding age group)

Territory	Children (0-17 years old)				Adults (18 years and older)			
	The average	Min	Max	OP	The average	Min	Max	OP
General morbidity								
City of Bukhara	108.2	95.5	120.9	0.76	113.9	105.6	122.3	1.32
City of Kagan	105.4	88.5	122.3	0.75	123.7	108.6	138.8	1.08
Bukhara district	112.2	105.5	118.9	0.81	117.1	101.6	132.6	1.17
Gijduvan district	139.7	120.2	159.3	1.05	156.4	101.5	211.2	1.48
Kagan district	108.4	98.5	118.3	0.76	89.1	65.6	112.6	0.86
Peshkunsky district	145.7	112.6	178.9	1.09	118.8	87.9	149.3	0.92
Vobkent district	127.2	86.2	168.2	1.17	145.2	112.3	178.2	1.41
Alatsky district	165.6	123.1	208.2	1.22	155.5	115.2	195.8	1.44
Karakul district	202.4	198.3	233.1	1.39	125.0	107.6	149.1	1.12
Karaulbazar district	128.7	92.5	165.0	1.08	143.3	108.3	178.2	1.31
Zhondor district	106.3	84.3	128.2	0.77	120.5	98.3	142.6	1.09
Shofirkan district	102.4	78.1	126.7	0.74	127.7	102.3	153.1	1.26
Romitan district	154.1	122.0	186.2	1.06	122.5	105.6	139.4	1.11

Source: Own study

Table 2

Risk groups for the primary incidence of bronchial asthma in the city and districts of the Bukhara region (average for 2015-2019, per 10,000 of the corresponding age group)

Age group	City of Bukhara	City of Kagan	Bukhara district	Gijduvan district	Kagan district	Peshkunsky district	Vobkent district	Alatsky district	Karakul district	Karaulbazar district	Zhondor district	Shofirkan district	Romitan district
Child population (0-17 years old)													
Everything	15.2	13.2	10.1	7.9	12.4	7.3	8.8	13.2	18.2	14.2	8.5	8.8	9.8
1-4 g	7.8	11.2	9.8	8.8	14.1	7.9	10.2	12.4	16.7	15.2	10.6	11.7	9.6
5-9 g	11.6	15.8	12.8	10.1	18.9	9.1	8.6	14.3	21.5	13.1	9.8	8.8	10.8
10-14 g	12.6	17.3	10.2	11.3	10.6	8.5	12.6	11.4	18.5	12.1	14.2	16.0	12.8
15-17 g	21.5	10.5	11.2	16.3	12.6	10.9	7.2	19.8	25.3	28.6	11.0	9.7	13.5
Adult population (18 years and older)													
Everything	19.2	16.2	14.5	11.3	15.1	16.2	12.5	17.2	22.6	19.3	9.8	7.8	12.5
18-19	15.9	13.6	8.9	7.5	24.3	9.5	8.8	12.3	25.5	15.5	12.1	7.9	16.0
20-29	26.2	17.8	12.6	15.3	36.2	14.2	14.4	15.8	43.4	23.2	13.5	12.5	10.6
30-39	16.8	21.5	18.6	12.0	28.4	13.4	18.5	26.8	38.9	18.4	9.6	10.1	19.3
40-49	21.5	24.3	10.4	18.8	15.5	22.5	20.3	36.6	45.6	33.1	16.6	19.3	25.3
50-59	18.2	28.1	10.6	22.3	30.1	13.7	41.2	25.2	19.2	12.5	10.3	12.1	9.6
60 and over	11.3	13.8	18.3	19.2	12.3	13.4	11.4	13.1	16.3	26.1	17.6	10.3	16.3

Source: Own stdy

According to researchers, the frequency of clinically diagnosed bronchial asthma in industrial regions based on the ISAAC program at the age of 7-8 years was 3.6±0.7%, at the age of 13-14 years - 9.7±0.8%. The true prevalence of BA among the child population in Chirchik, Almalyk, Angren averaged 6.6%, which is almost 3 times higher than official statistics (average 2.3%) (2).

The study of the distribution of indicators of the incidence of bronchial asthma in the Bukhara region revealed that the areas of risk for this pathology are areas with industrial zones: Karakul, Karulbazar and the city of Kagan. The risk groups for the incidence of bronchial asthma are children under 9 years of age and adults aged 60 years and older. The prevalence of bronchial asthma ranges from 5.5 per 1,000 population in relatively clean areas of residence to 33.5 per 1,000 population in industrialized areas. The researchers, having analyzed the case histories of patients with bronchial asthma, found that at the time of admission to the hospital, 72.1% of the inhabitants of the industrial territory of Karakul had 5 or more asthma attacks, while in relatively clean areas (in the control group) - 56% ($p < 0.05$). In addition, 21

The conjugated analysis of hygienic indicators characterizing the state of the habitat, and indicators of the health of the population, performed on the territory of the Korakul district, made it possible to assess the contribution of the technogenic load to the formation of environmentally caused diseases. The incidence of bronchial asthma in children was statistically significantly higher in areas with a high level of air pollution ($p<0.05$).

Indeed, the long stay of children in the home, the use of modern finishing materials, heating, humidification and ventilation technologies in residential buildings have changed indoor air quality and increased its impact on the respiratory system. Living in dusty, poorly ventilated, damp rooms, keeping and breeding various animals and birds at home significantly affect the incidence of bronchial asthma. In addition, cigarette smoking, including the passive form, increases the risk of developing and aggravates the course of bronchial asthma. Bronchial asthma can occur at any age. Approximately half of the patients develop the disease in the first 10 years of life, another third - up to 40 years. The results of this study showed that the risk groups for the incidence of bronchial asthma in the districts of the Bukhara region are children in the age groups of 3–4, 5–6 and 7–9 years, which is consistent with the data of a study performed in the Tashkent region, where the highest prevalence of bronchial asthma occurs at the age of 5 up to 9 years [1]. At the same time, the authors note the highest rate of new cases of bronchial asthma among children aged 2 to 4 years in girls and from 1 to 4 years in boys. Apparently, this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is

genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed individuals. 5-6 and 7-9 years old, which is consistent with the data of a study performed in the Tashkent region, where the highest prevalence of bronchial asthma occurs at the age of 5 to 9 years [1]. At the same time, the authors note the highest rate of new cases of bronchial asthma among children aged 2 to 4 years in girls and from 1 to 4 years in boys. Apparently, this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed persons. 5-6 and 7-9 years, which is consistent with the data of a study performed in the Tashkent region, where the highest prevalence of bronchial asthma occurs at the age of 5 to 9 years [1]. At the same time, the authors note the highest rate of new cases of bronchial asthma among children aged 2 to 4 years in girls and from 1 to 4 years in boys. Apparently, this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed persons. where the highest prevalence of bronchial asthma falls on the age of 5 to 9 years [1]. At the same time, the authors note the highest rate of new cases of bronchial asthma among children aged 2 to 4 years in girls and from 1 to 4 years in boys. Apparently, this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed individuals. where the highest prevalence of bronchial asthma falls on the age of 5 to 9 years [1]. At the same time, the authors note the highest rate of new cases of bronchial asthma among children aged 2 to 4 years in girls and from 1 to 4 years in boys. Apparently, this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed persons. this age is critical for the clinical manifestation of the disease. In this regard, the development of bronchial asthma in children, as an environmentally determined disease, is genetically determined and depends on the genetic characteristics of the organism, which determine the formation of the disease only in hereditarily predisposed persons. this age is critical for the clinical manifestation

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Comparison of incidence rates in the age structure of the adult population with that of the entire adult population revealed the highest incidence of the disease in the population of 60 years and older (see Table 2). Similar results were obtained in Tashkent, where the highest prevalence of bronchial asthma among the adult population falls on the age group of 60–69 years (1.24–1.26%) [2]. Gerontological features of the incidence of asthma in the literature are poorly reflected and studied, since it is believed that the occurrence of a primary incidence of bronchial asthma in the elderly is a rare phenomenon. In accordance with the models of the development of diseases, it can be assumed that the occurrence of bronchial asthma in the older population occurs according to accumulation or ontogenetic mechanisms.

Thus, the study showed that the highest incidence of general morbidity with bronchial asthma in children and adults is observed in the city of Kagan with the operation of an oil extraction plant, in the Karaulbazar district with an oil refinery and in the Karakul district with a Kandim gas processing plant. An increased risk of primary incidence of bronchial asthma exists for children aged 3 to 9 years and for adults 60 years of age and older. Pollutants, in particular chemical impurities, contained in the emissions of industrial enterprises Karaulbazar and Karakul, being a component of a sufficient cause, contribute to an increase in the frequency of seeking medical help for bronchial asthma.

References

1. Asher MI, Keil U., Anderson HR et al. International Study of Asthma and Allergies in Childhood (ISAAC): rationale and methods // Europ. Respir. J. - 1995. - Vol. 8. - R. 483-491.

2. Mirrahimova MH, Khalmatova BT Prevalence and risk factors ofbronchial asthma in childrenliving in the industrial zones oftashkent region// Central Asia Journal of Medicine journal.tma.uz. 2018. Issue 4, Article 7. Vol. - R. 67-76.
3. Abelevich M.M., Tarasova A.A., Kolpashchikova I.F. Epidemiology of bronchial asthma in children of the Nizhny Novgorod region // Improving the quality of life in asthma and allergies: Sat. scientific works. - St. Petersburg, 2016. - P. 3.
4. Allakverdieva L.I., Eyyubova A.A., Ismailov T.A., Akhmedova I.A. Influence of environmental environmental factors on the prevalence and course of bronchial asthma in children in Sumgatite // Pulmonology. - 2012. - No. 4. - S. 25.
5. Akhrarov Kh.Kh et al. Trigger factors of atopic dermatitis in preschool children // Ros. magazine leather and veins. Bol. - 2017. - T. 20, No. 6. - S. 347-351.
6. Balabolkin I.I. Modern ideas about the pathogenesis and therapy of atopic dermatitis in children // Farmateka. - 2017. - No. 1 (334). - S. 53-60.