ISSN 1477-9315

JOURNAL OF ENVIRONMENTAL HEALTH RESEARCH

Journal of environmental health research. Volume 1 Issue 2 2022
ISSN 1477-9315 http://www.jehr-online.org/
https://doi.org/10.5281/zenodo.7261167
Universal impact factor 7.2

Journal of environmental health research. ISSN 1477-9315

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Journal of environmental health research.
ISSN 1477-9315 http://www.jehr-online.org/
36 Victoria Road London N59 7LB

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THE SIGNIFICANCE OF INDICATORS OF THE FUNCTION OF EXTERNAL RESPIRITATION IN THE EARLY DETECTION OF BRONCHIAL ASTHMA IN THE FAMILY

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For citation: Okboev T.A., Dusanov A. D. Significance of respiratory function indicators in the early detection of bronchial asthma in the family.
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Abstract: The study was conducted in 31 probands with bronchial asthma and 62 relatives in their families. In this case, 93 patients with bronchial asthma diagnosed in the family were examined using the spirograph.

It has been shown that the examination of the function of external respiration in patients with bronchial asthma in the family contributes to the early and timely diagnosis of family bronchial asthma, and it is necessary to carry out timely prevention.

Keywords: Familial bronchial asthma, respiratory function, early detection.

Relevance. Bronchial asthma is a heterogeneous disease characterized by chronic inflammation of the airways, which causes variable bronchial obstruction and hyperreactivity.An important way to confirm the diagnosis of bronchial asthma is to determine the state of bronchial obstruction [2,3,5,6,16,17,18]. The spirography method is one of the most important methods for diagnosing patients with bronchial asthma.

Inhalation bronchodilator tests are used to evaluate the state of bronchial obstruction, mainly by evaluating the rapid expiratory volume in the first second (FEV1). When FEV1 exceeds 15% of the value, it is recognized as a sign of a positive bronchodilator response. After receiving such a value, it is documented that there is bronchial obstruction. At the same time, routine measurement of FEV1 and other indicators of respiratory function in bronchial asthma is an easily accessible way to objectively assess the effectiveness of basic therapy with daily self-monitoring both in outpatient and inpatient settings.

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Family gathering of patients with bronchial asthma and the presence of allergic diseases in relatives is the effect of heredity, and it has been confirmed that the proband of close relatives has a higher incidence of bronchial asthma compared to healthy people. [3,4,5,6].

Studying the importance of determining external respiratory function indicators in early diagnosis of the disease in patients with familial bronchial asthma will help to implement early treatment and preventive measures of the disease [8,10,11,19].

The purpose of the study. Studying the importance of external respiratory function indicators in the early detection of bronchial asthma in the family.

Research materials and methods. The study was conducted on the basis of the allergology and pulmonology department of SamShTB in 31 patients from the family of patients treated for bronchial asthma. 31 probands and 62 relatives of their families were included in the study. The family consists of 93 members aged 18 to 71 years, of which 40 (43.01 %) are men and 53 (56.99%) are women. Their average age is 38.36 [18; 71] externalized the year.

Bronchial asthma was diagnosed according to the global strategy for the treatment and prevention of bronchial asthma (GINA 2022).

Examination of each person included in the study was conducted on the basis of anamnesis collection, clinic, general laboratory analysis, and instrumental examination methods.

The ventilation function of the lungs was studied using the spirography apparatus. The following parameters were analyzed: FEV_1, FVC, FEV_1/FVC index, PEF, FIF_{25}, FIF_{50}, FIF_{75}. To assess the state of bronchial obstruction, spirometry was repeated 15 minutes after inhalation of 400 micrograms of salbutamol. The values were recorded as a percentage of the corresponding values. The obtained data were calculated using the arithmetic mean (M), standard deviation (m), relative values (frequency, %), probability of error using programs developed in the EXCEL package using the library of statistical functions on a Pentium-IV personal computer. test (t) was determined.

The result. In order to detect bronchial asthma in family members early and express its severity level, external respiratory function was examined in persons suspected of having bronchial asthma in the family. In probands with bronchial asthma in the family, the indicators of external respiratory function were analyzed according to the severity of the disease. In the mild degree of familial bronchial asthma, the average value of FEV_1 was 84.51±1.94%, the average value of FVC was 89.22±2.04%, and the morning value of PEF was 85.22±1.39% , the average value of FIF_{25} was 80.27±2.31%, the average value of FIF_{50} was 83.23±1.94%, and the average value of FIF_{75} was 90.34±3.11%.

In the acute stage of familial bronchial asthma, the average value of FEV_1 was 74.28±1.87%, the average value of FVC was 80.49±2.89%, and the morning value of PEF was 77.49±1.81 %, the average value of FIF_{25} is 76.31 ± 1.89%, the average value of FIF_{50} is 72.90 ± 5.66%, the average value of FIF_{75} is 86.69 ± 6.12% did.

Table 1

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Functional characteristics of the proband according to the severity of bronchial asthma

Indicators of ERF	Severity of bronchial asthma			P_{1-2}	P_{1-3}	P_{2-3}
	Light n=10	Medium heavy n=22	Heavy n=17			
FEV_1, % of normal	84,51±1,94	74,28±1,87	58,87±2,29	0,017	0,036	0,186
FVC, % of normal	89,22±2,04	80,49±2,89	78,24±3,20	0,04	0,002	0,02
The morning value of the PEF, %	85,22±1,39	77,49±1,81	58,59±2,63	0,364	0,04	0,007
FIF_{25}, %	80,27±2,31	76,31±1,89	63,20±6,47	0,04	0,002	0,02
FIF_{50}, %	83,23±1,94	72,90±5,66	60,16±5,12	0,002	0,007	0,186
FIF_{75}, %	90,34±3,11	86,69±6,12	80,3±4,48	0,001	0,039	0,298

In severe familial bronchial asthma, the average value of FEV_1 was 58.87 ± 2.29%, the average value of FVC was 78.24 ± 3.20%, and the morning value of PEF was 58.59 ± 2.63%. , the average value of FIF_{25} was 63.20 ± 6.47%, the average value of FIF_{50} was 60.16 ± 5.12%, and the average value of FIF_{75} was 80.3 ± 4.48% [table 1].

During the research, external respiratory function was studied in patients diagnosed with bronchial asthma in the family. In the probands of the family, the average value of VC was 66.32%, the average value of PEF was 68.44%, the average value of FEV_1 was 69.21%, the ratio of FEV_1 / FVC was 92, 14, the average value of FIF_{25} was 56.15%, the average value of FIF_{50} was 65.07%, and the average value of FIF_{75} was 66.19%.

Table 2

Indicators of external respiratory function of patients with bronchial asthma in the family at the time of the study

Indicators of ERF	Probands, n=49	Relatives, n=82	P_{1-2}
VC %	66,32±6,12	82,64±6,12	0,48
JO'HS %	68,44±6,12	89,69±6,12	0,67
FEV_1 %	69,21±6,12	94,73±6,12	0,74
FEV_1 / FVC	92,14±6,12	101,45±6,12	0,3
FIF_{25} %	56,15±6,12	95,81±6,12	0,63
FIF_{50} %	65,07±6,12	98,99±6,12	0,76
FIF_{75} %	66,19±6,12	112,08±6,12	0,39

In patients with bronchial asthma in family relatives, the average value of VC was 82.64%, the average value of PEF was 89.69%, the average value of FEV_1 was 94.73%, the ratio of FEV_1 / FVC was 101 .45%, the average value of FIF_{25} was 95.81%, the average value of FIF_{50} was 98.99%, the average value of FIF_{75} was 112.08% [table 2].

Summary. Thus, when we evaluated the indicators of external respiratory function of probands with familial bronchial asthma determined in the family, changes corresponding to the severity of the disease were found. Examination of external respiratory function in these patients is one of the modern diagnostic methods, which helps to make an early and timely diagnosis of familial bronchial asthma.

The indicators of the external respiratory function of the probands in the family were calculated as the diagnostic criteria of family bronchial asthma, and it was found that the probands significantly decreased when compared to the indicators of their relatives with bronchial asthma. These indicators show a clear violation of pulmonary ventilation in the obstructive type in the probands, and indicate that they have severe bronchial asthma. It can be said that it is necessary to carry out timely primary and secondary prevention of bronchial asthma in the family.

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