



**TOSHKENT TIBBIYOT AKADEMIYASI URGANCH FILIALI**  
**JANUBIY OROLBO‘YI TIBBIYOT JURNALI**  
**2 - TOM, MAXSUS SON. 2026**  
**14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740**

**EVALUATION OF THE EFFECTIVENESS OF IMMUNOMODULATORY THERAPY IN CHILDREN WITH FREQUENT DISEASES**



**Allanazarov Alisher Boymuratovich**

Assistant of the Department № 1 of Pediatrics and Neonatology  
Samarkand State Medical University  
Samarkand, Uzbekistan.

ORCID: 0000-0003-2318-5004. E-mail: [alisherpediatr@mail.ru](mailto:alisherpediatr@mail.ru)

**ANNOTATION**

The article presents the results of anamnestic, clinical, laboratory and special examination methods of 120 children with acute obstructive bronchitis aged 1 year 6 months to 8 years. Patients were admitted and were under observation in the I, II departments of emergency pediatrics and pediatric intensive care of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care from 2019 to 2023. Diagnosis of acute obstructive bronchitis (AOB) in children was established on the basis of laboratory, radiological studies and clinical criteria.

**Key words:** frequently ill children, acute obstructive bronchitis, immunomodulatory therapy.

**Алланазаров Алишер Боймуратович**

ассистент кафедры №1 педиатрии и неонатологии,  
Самаркандский государственный медицинский университет  
Самарканд, Узбекистан.

ORCID: 0000-0003-2318-5004. E-mail: [alisherpediatr@mail.ru](mailto:alisherpediatr@mail.ru)

**АННОТАЦИЯ**

В статье представлены результаты анамнестических, клинико-лабораторных и специальных методов обследования 120 детей с острым обструктивным бронхитом в возрасте от 1 года 6 месяцев до 8 лет. Больные поступали и находились под наблюдением в I, II отделениях неотложной педиатрии и детской реанимации Самаркандского филиала Республиканского научного центра скорой медицинской помощи с 2019 по 2023 год. Диагностику острого обструктивного бронхита (ООБ) у детей устанавливали на основании лабораторных, рентгенологических исследований и клинических критериев.

**Ключевые слова:** часто болеющие дети, острый обструктивный бронхит, иммуномодулирующая терапия.

**Allanazarov Alisher Boymuratovich**

1-son pediatriya va neonatologiya kafedrasi assistenti  
Samarqand davlat tibbiyot universiteti  
Samarqand, O‘zbekiston.

ORCID: 0000-0003-2318-5004. E-mail: [alisherpediatr@mail.ru](mailto:alisherpediatr@mail.ru)



# TOSHKENT TIBBIYOT AKADEMIYASI URGANCH FILIALI JANUBIY OROLBO‘YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

## ANNOTATSIYA

Maqolada 1 yosh 6 oylikdan 8 yoshgacha bo‘lgan o‘tkir obstruktiv bronxit bilan og‘rigan 120 nafar bolalarda anamnestik, klinik, laboratoriya va maxsus tekshirish usullari natijalari keltirilgan. Bemorlar Respublika shoshilinch tibbiy yordam ilmiy markazi Samarqand filialining 2019 yildan 2023 yilgacha bo‘lgan davrda I, II shoshilinch pediatriya va bolalar reanimasiyasi bo‘limlariga yotqizilgan va kuzatuvda bo‘lgan. Bolalarda o‘tkir obstruktiv bronxitni (O‘OB) ni tashxislash laboratoriya, rentgenologik tekshiruvlar, hamda klinik mezonlar asosida baholandi.

**Kalit so‘zlar:** tez-tez kasal bo‘ladigan bolalar, o‘tkir obstruktiv bronxit, immunomodulyator terapiya.

**Topic relevance.**In recent years, the effectiveness of drugs with immunomodulatory properties in the complex treatment of respiratory diseases in children with frequent viral infections has been evaluated. Immunomodulators of microbial origin are widely used, especially in children with frequent illnesses [2,9]. In children with recurrent obstructive bronchitis, the immunocompetent system has compensatory capabilities for cytokine synthesis. With the appointment of azoximer bromide, normalization of the concentration of IL-4, IL-18 and  $\gamma$ -interferon in the serum of patients is observed [4].

Children who get sick often (For clinical and immunological evaluation of the effectiveness of immunotherapy with thymogen, myelopid, ribomunyl, IRS19 in TKBB, it is necessary to determine systemic and local protective factors, the basis for which is the level of secretory IgA [3,8,10]

Non-specific rehabilitation measures are indicated to prevent the development of the CKD group and improve health: rational daily routine and nutrition, full-fledged nutrition for age, sufficient exposure to fresh air, exercise, regular physical education, normalization of psychological and social conditions, identification and treatment of foci of chronic infections, regular vaccination of children [5,6].

Given that the basis of frequent, recurrent respiratory infections is an imbalance in the body's defenses, therapy aimed at strengthening overall immunity is recommended [1,7].

When prescribing immunostimulating therapy, it is necessary to understand the pathogenetic mechanisms of the development of pathology, which determines the need for timely identification and control of clinical and immunological criteria. Immunomodulators are divided into thymic, microbial, bone marrow, interferon inducers, nucleic acids, plant, chemically pure groups [8,9].

In the treatment of acute obstructive bronchitis in "frequently ill children", the simultaneous use of a complex immunomodulatory drug containing recombinant interferon alpha-2b Grippferon and an extract of bronchomunal bacterial lysates can be justified, taking into account their specific mechanisms of action on the immune system.

**Research objective:** in the treatment of acute obstructive bronchitis in children who are frequently ill assessment of the effectiveness of immunomodulatory therapy.

**Research methods and sources:** The scientific work presents the results of anamnestic, clinical, laboratory and special examination methods in 120 children aged 1 year 6 months to 8 years with acute obstructive bronchitis. The patients were admitted to the I, II emergency pediatric and pediatric intensive care departments of the Samarkand branch of the Republican Scientific Center for Emergency Medical Care from 2019 to 2023 and were under observation.

The criteria for diagnosing COPD in children were clinical signs, confirmed by laboratory and radiological examination methods, if necessary. The diagnosis of COPD was made on the basis of clinical manifestations of the disease: subfebrile temperature, cough, scattered dry and mixed wet rales in the lungs, noisy breathing, expiratory wheezing. Radiologically, an increase in the pulmonary pattern, an increase in the transparency of the lung tissue against the background of the absence of infiltrative and focal shadows in the lungs were revealed.



# TOSHKENT TIBBIYOT AKADEMIYASI URGANCH FILIALI JANUBIY OROLBO‘YI TIBBIYOT JURNALI

2 - TOM, MAXSUS SON. 2026

14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740

The study was conducted in 2 stages:

In phase 1, to determine the diagnostic significance of clinical signs, their correlation with immune status and cytokine profile indicators, 120 patients with acute obstructive bronchitis were examined and divided into 2 groups:

Group I (control) - 40 patients with acute obstructive bronchitis from the group of "episodic children";

Group II (main) 80 patients with acute obstructive bronchitis from the group of "frequently ill children".

In phase 2, to determine the effectiveness of the modified therapy, group II patients were divided: group IIa - 40 patients who received standard therapy and group IIb - 40 patients who received Grippferon and Broncho-munal in the standard therapy complex.

To assess the normative values of laboratory parameters, 20 healthy children aged 1 to 6 years who had not suffered from viral and bacterial infections during the last 2 months before the examination were examined.

To normalize the detected disorders of the interleukin profile, humoral and cellular immunity in patients of group IIb, the therapy complex includes the combined use of Grippferon and Bronchomunal.

Grippferon is administered intranasally: children from 0 to 1 year old - 1 drop 5 times a day; from 1 to 3 years old - 2 drops 3-4 times a day, from 3 to 14 years old - 2 drops 4-5 times a day for 5-7 days.

The drug broncho-munal was administered daily, in the morning, on an empty stomach, for the entire period of treatment of patients. The effectiveness of therapy in patients was assessed by the regression of pathological clinical signs of the disease, the dynamics of normalization of laboratory, instrumental data and indicators of special research methods.

## **Research results and discussion.**

The results of the studies revealed the characteristics of anamnestic data, clinical signs, hyperproduction of interleukins, imbalance of humoral and cellular immunity, which are important in the pathogenetic mechanisms of the development of OAB in children. Due to the pharmacological effect, immunomodulatory therapy allows to reduce the risk of developing the disease, its spread, and to conduct effective treatment of obstructive bronchitis in children [Kasokhov TB, Alborova, 2020 p.7].

In this regard, clinical and laboratory studies were conducted to develop the safety, efficacy, and optimal regimens for the combined use of Grippferon and Broncho-munal in children with frequent respiratory infections, which appears to be a promising direction in the treatment of many diseases.

Analysis of the dynamics of normalization of the main clinical signs of acute obstructive bronchitis in patients (Figure 1) revealed that in children with frequent exacerbations (group IIa) receiving conventional treatment, normalization was significantly ( $P < 0.001$ ) longer in almost all indicators compared to children with episodic exacerbations (group I).

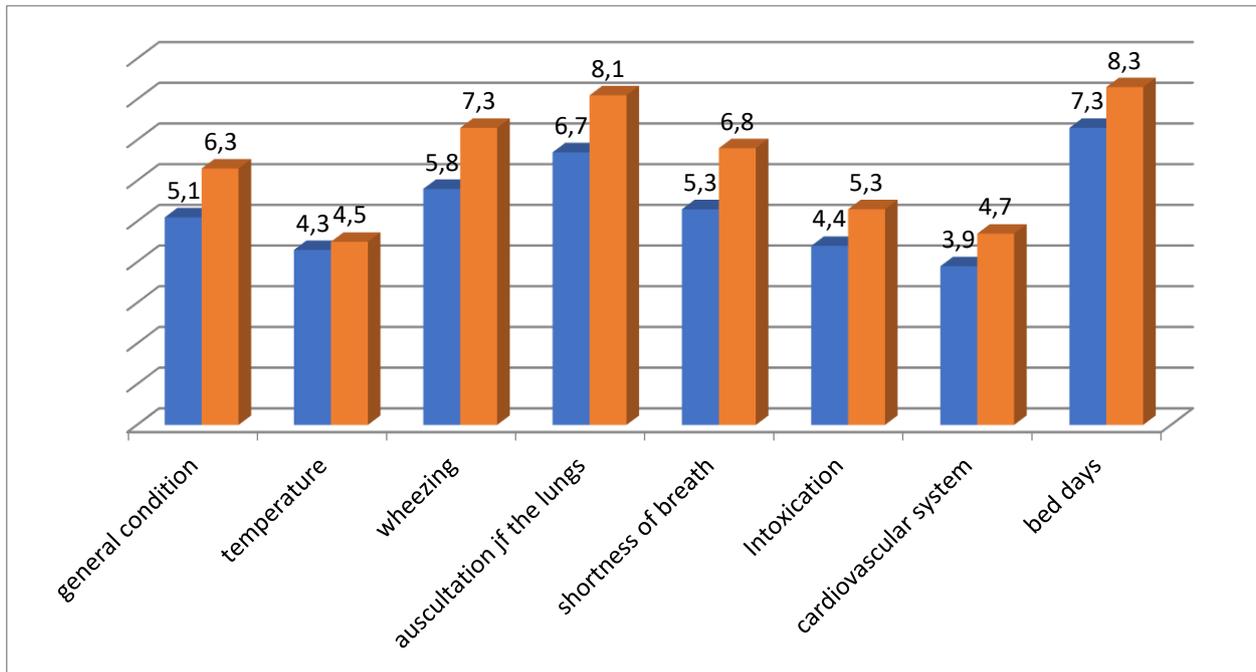


Figure 1. Dynamics of the disappearance of the main clinical signs of OAB in patients of groups I and IIa.

Note: – Group I, – Group IIa, \* - significant differences between groups.

Thus, in patients in group IIa, the improvement of the general condition was 1.2 ( $6.3 \pm 0.2$ ) days later than in group I, the disappearance of distant wheezing was 1.5 ( $7.3 \pm 0.3$ ) days later, the disappearance of auscultatory changes in the lungs was 1.4 ( $8.1 \pm 0.3$ ) days later, respiratory failure was 1.5 ( $6.8 \pm 0.2$ ) days later, toxicosis was 0.9 ( $5.3 \pm 0.2$ ) days later, the recovery of cardiovascular function was 0.8 ( $4.7 \pm 0.1$ ) days later, and the hospital stay was 1.0 ( $8.3 \pm 0.2$ ) bed-days longer. According to the observation groups, only the normalization of temperature occurred 0.2 ( $4.5 \pm 0.2$ ,  $R > 0.5$ ) days ago.

The persistence of pathological signs of OCD in children with frequent relapses with standard therapy compared with children with episodic relapses is probably one of the features of the progression of the disease, which should undoubtedly be reflected in the data of laboratory studies conducted in patients.

In children with frequent exacerbations of chronic obstructive pulmonary disease (COPD) who received therapy including Grippferon and Bronchomunal (group IIb), the clinical effectiveness of treatment increased by a non-significant difference from 0.1 to 0.5 ( $P > 0.5$ ,  $P > 0.1$ ) days compared with group I, which is manifested in almost identical terms of normalization of the analyzed symptoms.

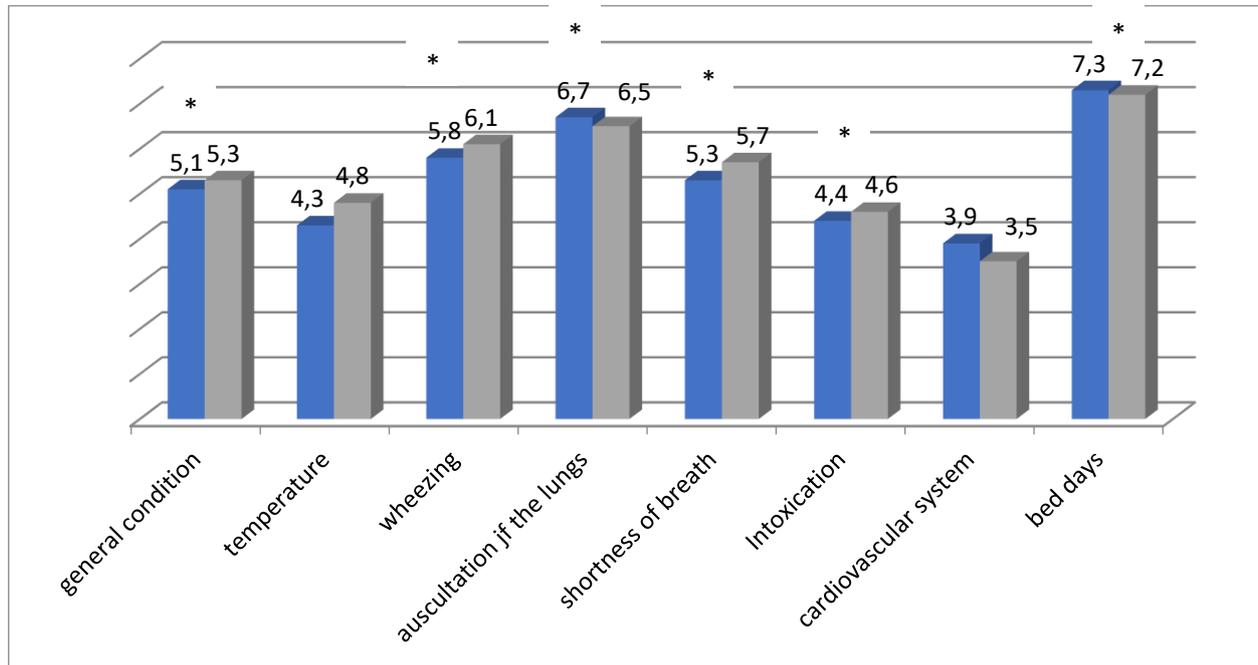


Figure 2. Dynamics of the disappearance of the main clinical signs of acute obstructive bronchitis in patients of groups I and IIb.

Note: – Group I, – Group IIb, \* - significant differences between groups.

Thus, the general condition improved only after 0.2 days ( $5.3 \pm 0.1$  days), distant wheezing disappeared after 0.3 days ( $6.1 \pm 0.2$  days), auscultatory changes in the lungs disappeared 0.2 days earlier ( $6.5 \pm 0.3$  days), NYe after 0.4 days ( $5.7 \pm 0.2$  days), intoxication syndrome resolved after 0.2 days ( $4.6 \pm 0.2$  days). However, there were significant differences across study groups in temperature normalization 0.5 days later ( $4.8 \pm 0.2$  days) and improvement in cardiovascular function 0.4 days earlier ( $3.5 \pm 0.1$  days) ( $P < 0.02$ ,  $P < 0.001$ ).

Comparative analysis of the dynamics of clinical symptoms in patients with acute respiratory viral infections in groups I and IIa shows almost the same pattern, which is the result of the combined effect of Grippferon and Broncho-munal on the course of the disease, which manifested itself almost at the same time in the hospital:  $7.3 \pm 0.2$  and  $7.2 \pm 0.3$  bed-days for the groups, respectively ( $P > 0.5$ ).

Thus, the inclusion of Grippferon and Bronchomunal in the complex therapy of acute respiratory viral infections in children with frequent exacerbations of chronic bronchitis led to the elimination of the main pathological symptom complexes of the disease compared to standard therapy, which is a result of the optimal immunomodulatory effect of these drugs on the course of the disease.

A comparative analysis of the clinical manifestations of acute respiratory viral infections in children with frequent exacerbations depending on the treatment method (Figure 3) showed that the symptom complexes of the disease had a significant positive dynamics when Grippferon and Bronchomunal were used together, with an average of 0.7 to 1.6 days in patients in group IIb compared to group IIa, who underwent traditional therapy.

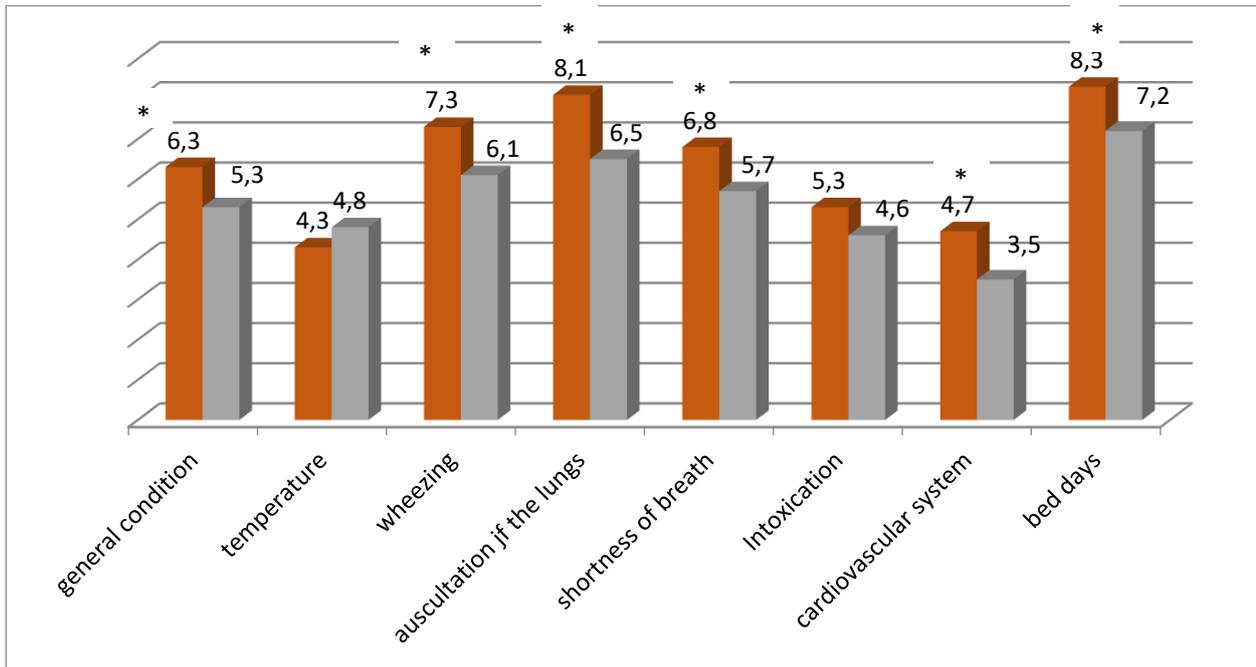


Figure 3. Dynamics of the disappearance of the main clinical signs of acute obstructive bronchitis in patients of groups IIa and IIb.

Note: - Group IIa, – Group IIb, \* - significance of differences ( $P < 0.05$  or less).

The dynamics of clinical symptoms showed that in patients in group IIb, the general condition improved 1.0 days ( $5.3 \pm 0.1$  days) faster than in patients in group IIa ( $P < 0.01$ ,  $P < 0.02$ ,  $P < 0.001$ ), distant wheezing disappeared in 1.2 days ( $6.1 \pm 0.2$  days), auscultatory data in the lungs normalized in 1.6 days ( $6.5 \pm 0.3$  days), and respiratory failure in 1.1 days ( $5.7 \pm 0.2$  days), the disappearance of intoxication syndrome in 0.7 days ( $4.6 \pm 0.2$  days), and cardiovascular insufficiency disappeared in 1.5 days ( $3.5 \pm 0.2$  days). The normalization of temperature, which occurred only after 0.3 days ( $4.8 \pm 0.2$  days), did not indicate a significant effectiveness of the effects of Grippferon and Bronchomunal on the course of the disease ( $P > 0.2$ ).

Finally, the effectiveness of Grippferon and Bronchomunal in acute respiratory viral infections in children with frequent exacerbations compared to conventional therapy was confirmed by a reduction in the duration of inpatient treatment by an average of 1.1 days, i.e.  $7.2 \pm 0.3$  bed days ( $P < 0.01$ ), which confirms the feasibility of including this method in the treatment protocols of the disease.

**Conclusion:** The evaluation of the effectiveness of various therapeutic methods showed that the inclusion of Grippferon and Bronchomunal immunomodulators in the complex treatment of acute obstructive bronchitis in children with frequent illnesses provides a rapid normalization of clinical symptoms, optimal improvement of immune status indicators, and a reduction in the duration of inpatient treatment by 1.1 days compared to traditional therapy. The data obtained confirm the need to use Grippferon and Broncho-munal in clinical practice in the complex treatment of acute obstructive bronchitis in a group of children with frequent illnesses.

#### REFERENCES:

1. Алланазаров А.Б., Джалилова С., Мамаризаев И.К., Мардонов А. Факторы риска развития острого бронхообструктивного синдрома у часто болеющих детей по данным Самаркандского филиала РНЦЭМП. Кардиореспираторные исследования. № СИ-4. 11 2022. Стр. 31-33
2. Бурнайкина К. С., Герасимова Н. Г., – 2020Полиоксидоний, есть интерпретация СД,



**TOSHKENT TIBBIYOT AKADEMIYASI URGANCH FILIALI**  
**JANUBIY OROLBO‘YI TIBBIYOT JURNALI**  
**2 - TOM, MAXSUS SON. 2026**  
**14.00.00 - TIBBIYOT FANLARI ISSN: 3093-8740**

- интерлейкины. С. 31-35
3. Нурали Мамедович Шавази, Алишер Баймурадович Алланазаров, Мухиба Сайфиевна Атаева, Джавлон Шавкатович Гайбуллаев. [Современные взгляды на возникновение обструктивной болезни легких у детей](#). Журнал кардиореспираторных исследований. № 1 2021 Страницы 40-43.
  4. Наврузова Ш. И., Ачилова Д. Н. Особенности иммунного статуса у детей с обструктивным бронхитом //Новый день в медицине. – 2019. – Нет. 3. – С. 191-196.
  5. Шавази Нурали Мамедович, Алланазаров Алишер Боймуратович, Атаева Мухиба Сайфиевна, Гайбуллаев Жавлон Шавкатович. Клинико-иммунологические особенности бронхообструктивного синдрома у детей раннего и дошкольного возраста. Проблемы биологии и медицины. № 1 (134) 2022. Страницы 89-92
  6. Шавази Нурали Мамедович, Алланазаров Алишер Боймуратович. Цитокиновый статус при остром обструктивном бронхите у часто болеющих детей. Проблемы биологии и медицины. 2023 № 4 (134). Страница 235-238. <https://doi.org/10.38096/2181-5674.2023.5>
  7. Рустамов М.Р., Сирожиддинова Х.Н. Катамнестическое наблюдение эффективности иммунокорректирующей терапии у часто болеющих детей // Международный журнал научной педиатрии. На страницах 29-32.
  8. Шавази Н.М., Сирожиддинова Х.Н. Новый подход к лечению заболеваний органов дыхания у часто болеющих детей. // Международный журнал научной педиатрии. На страницах 33-36.

