

Prevention of respiratory viral infections in patients with chronic diseases

Prevención de infecciones virales respiratorias en pacientes con enfermedades crónicas

Anastasiia Borisovna Kritsyna^{1*} First Pavlov State Medical University of St. Petersburg, L'va Tolstogo 6-8, 197022, Saint-Petersburg, Russian Federation. Email: kb99@bk.ru. ORCID: 0009-0006-2828-7164

Khadizhat Shamilovna Vagabova² Dagestan State Medical University, Makhachkala, pl lenin 1, 367012, Russia. Email: vagabovhadizha20@gmail.com. ORCID: 09-0001-0133-8914

Aida Serazhudinovna Abasova³ Federal State Budgetary Educational Institution of Higher Education «Astrakhan State Medical University», 414000, Astrakhan, Bakinskaya str. 121, Russia. Email: aida.absova.2016@mail.ru. ORCID: 0009-0007-2931-4520

Ekaterina Alexandrovna Deryabina⁴ Federal State Budgetary Educational Institution of Higher Education «Astrakhan State Medical University», 414000, Astrakhan, Bakinskaya str. 121, Russia. Email: 92-32@mail.ru. ORCID: 0000-0002-1906-7235

Rasul Rasulovich Musaev⁵ Federal State Budgetary Educational Institution of Higher Education «Astrakhan State Medical University», 414000, Astrakhan, Bakinskaya str. 121, Russia. Email: mkoatli@mail.ru. ORCID: 0009-0008-6182-8924

Amina Tahirovna Biymurzaeva⁶ Federal State Budgetary Educational Institution of Higher Education «Astrakhan State Medical University», 414000, Astrakhan, Bakinskaya str. 121, Russia. Email: abijmrzaeva32@gmail.com. ORCID: 0009-0004-3664-5588

Alexander Markov⁷ Tyumen State Medical University, Tyumen, Russian Federation Tyumen Industrial University, Tyumen, Russian Federation. Email: alexdokter@inbox.ru. ORCID: 0000-0001-7471-4792

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Abstract

The article discusses the features of the prevention of respiratory viral infections in patients with chronic diseases. The relevance of the topic under consideration lies in the urgent need to develop and implement effective measures for the prevention of respiratory viral infections in patients suffering from chronic diseases. Chronic diseases such as diabetes mellitus, bronchial asthma, chronic obstructive pulmonary disease and cardiovascular diseases make patients more vulnerable to viruses such as influenza and coronavirus infections. The article provides an overview of modern methods of prevention of respiratory viral infections in this category of patients. The advantages of vaccination as the main tool of prevention are considered, the effectiveness and safety of vaccines for patients with chronic diseases are investigated. The rules of hygienic behavior are studied in detail, such as regular hand washing, the use of masks and distancing, as ways to reduce the risk of infection, and emphasis is also placed on the need for regular medical supervision, adequate treatment of chronic diseases and support of the immune system. The importance of psychological assistance to patients with chronic diseases during epidemics to reduce stress and anxiety is discussed, and the role of information campaigns and patient education to raise awareness of prevention measures is emphasized.

Keywords: respiratory viral infections, prevention, patients, chronic diseases.

Resumen

El artículo analiza las características de la prevención de infecciones virales respiratorias en pacientes con enfermedades crónicas. La relevancia del tema en consideración radica en la urgente necesidad de desarrollar e implementar medidas efectivas para la prevención de infecciones virales respiratorias en pacientes que padecen enfermedades crónicas. Enfermedades crónicas como la diabetes mellitus, el asma bronquial, la enfermedad pulmonar obstructiva crónica y las enfermedades cardiovasculares hacen que los pacientes sean más vulnerables a virus como la influenza y las infecciones por coronavirus. El artículo proporciona una descripción general de los métodos modernos de prevención de infecciones virales respiratorias en esta categoría de pacientes. Se consideran las ventajas de la vacunación como principal herramienta de prevención y se investiga la eficacia y seguridad de las vacunas para pacientes con enfermedades crónicas. Se estudian en detalle las normas de conducta higiénica, como el lavado regular de manos, el uso de mascarillas y el distanciamiento, como formas de reducir el riesgo de infección, y también se hace hincapié en la necesidad de una supervisión médica periódica y un tratamiento adecuado de las enfermedades crónicas. y apoyo del sistema inmunológico. Se discute la importancia de la asistencia psicológica a pacientes con enfermedades crónicas durante las epidemias para reducir el estrés y la ansiedad, y se enfatiza el papel de las campañas de información y educación de los pacientes para crear conciencia sobre las medidas de prevención.

Palabras clave: infecciones virales respiratorias, prevención, pacientes, enfermedades crónicas.

Respiratory viral infections such as influenza, coronavirus diseases (including COVID-19) and colds are a global public health problem^{1,2}. They can spread quickly and lead to serious consequences, especially for a population suffering from chronic diseases. Chronic diseases such as diabetes mellitus, bronchial asthma, chronic obstructive pulmonary disease (COPD) and cardiovascular diseases create additional risk factors in patients and make them more vulnerable to respiratory viruses³⁻⁵.

In the light of global epidemics, such as the COVID-19 pandemic, the issues of prevention of respiratory viral infections in patients with chronic diseases are becoming particularly relevant. The need for effective prevention strategies adapted to this category of patients is becoming the most important task for modern medicine and public health⁶⁻⁸.

The purpose of the work is to provide an overview of modern approaches and methods of prevention of respiratory viral infections in patients with chronic diseases. Understanding and proper implementation of these methods can significantly reduce the risk of infection with respiratory viruses and make the life of patients with chronic diseases safer and better.

To work within the framework of this article, an analysis of the practical experience of specialists who work in the field of ensuring the prevention of respiratory viral infections was carried out. To this end, Russian and foreign publications were reviewed, the analysis of the main approaches to the consideration of this topic was carried out, and the most optimal methods and ways to achieve the goal were selected, which are described in this work. When writing the article, data analysis was carried out within the framework of the topic of the work, comparative and analytical research methods were used in the preparation of the work.

Respiratory viral infections (RVIs) remain one of the most common and dangerous diseases in the world². Patients with chronic diseases such as diabetes mellitus, bronchial asthma, chronic obstructive pulmonary disease (COPD) and cardiovascular diseases are at special risk because their immune system may be weakened, and they are more susceptible to severe complications from RVIs. Fig. 1. presents modern approaches and methods of prevention of RVI in patients with chronic diseases.

Let's look at them in more detail. Vaccination is considered one of the most effective methods of preventing RVI. Patients with chronic diseases, especially older and immuno-compromised, should be a priority group for vaccination³.

Regular updating of vaccines, including seasonal flu vaccines and vaccines against new coronaviruses, is an important aspect of prevention⁴.

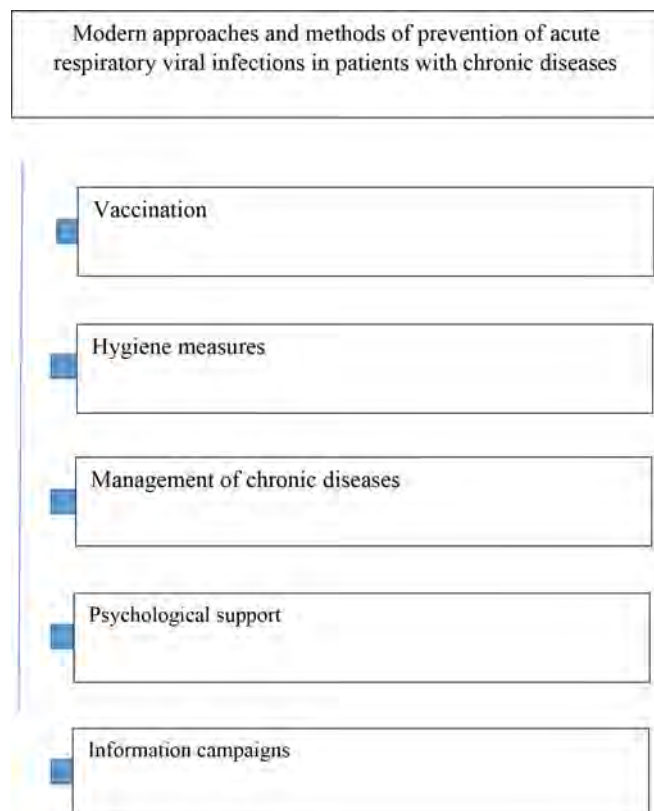
Teaching patients the correct methods of hygienic behavior, such as regular and thorough hand washing, the use of masks and distancing, helps to reduce the risk of infection. Special attention should be paid to the training of patients with chronic diseases, as they may be less informed about such measures.

Effective treatment and care of chronic diseases can strengthen the patient's immune system and reduce the risk of complications from RVIs. Regular visits to the doctor, compliance with prescriptions and recommendations of medical personnel play an important role⁵.

Patients with chronic diseases often experience stress and anxiety, especially during periods of epidemics. Psychological support and counseling can help them cope with stress effectively.

Information campaigns and dissemination of reliable information on measures to prevent RVIs play a key role in the training and awareness of patients⁶. Encouraging patients to actively participate and closely follow news and recommendations has a positive impact on the prevention of RVIs.

Accordingly, the prevention of respiratory viral infections in patients with chronic diseases requires a comprehensive approach, including vaccination, compliance with hygiene rules, management of chronic diseases and psychological support. These methods jointly contribute to reducing the risk of SARS infection and minimizing complications⁷.

Figure 1. Modern approaches and methods of prevention of RVI in patients with chronic diseases

Vaccination is one of the most effective methods of preventing infectious diseases, and it has many advantages. Vaccines train the body's immune system to fight the causative agent of the disease without causing the disease itself. This helps prevent the disease or reduce its severity. Vaccination not only protects an individual from infection, but also contributes to the formation of collective immunity in society. This makes the spread of the disease more difficult and protects more vulnerable groups of the population, such as children and people with weakened immune systems⁸.

Vaccination can help prevent serious complications and side effects of the disease. For example, flu vaccination can reduce the risk of developing pneumonia and hospitalization. Many vaccines have proven to be highly effective in preventing diseases. They provide reliable protection in most cases⁹. Vaccines undergo rigorous clinical trials and post-release monitoring to ensure their safety. The side effects of vaccination are usually mild and temporary, and rare serious reactions are extremely rare. Vaccination is a cost-effective method of preventing diseases and reducing the cost of treating complications. Vaccination can be applied to a wide group of the population, including children and adults, as well as people with chronic diseases, if there are no medical contraindications. It helps to stop the chain of transmission of infection and prevent epidemics. Some vaccines, such as the rubella vaccine, can prevent

serious complications in pregnant women and newborns. All these advantages make vaccination one of the most important medical achievements contributing to improving public health and prolonging life expectancy¹⁰.

Hygienic measures also have many benefits and an important role in maintaining health and preventing the spread of infections. Activities such as regular hand washing with soap and water help to remove germs and viruses from the surface of the skin, which reduces the risk of infection with various infections, including respiratory viral infections, food poisoning and other diseases. Wearing masks and following hygiene rules help prevent the spread of drip infections such as influenza and coronavirus infections. Proper hygiene, including cleanliness of the body and clothing, reduces the likelihood of contact with infectious agents, which helps to reduce morbidity and improve overall health¹¹.

Hygienic measures help to reduce the risk of human-to-human transmission, especially in public places, at work and in medical institutions. Maintaining good hygiene practices helps keep the body's immune system in a stronger state, which makes it more resistant to infections.

Hygienic measures are of public importance, as they contribute to reducing the spread of infections in society and improving the general health of the population. Good hygiene practice promotes a sense of freshness and comfort, which can increase self-esteem and overall well-being.

Hygienic measures are especially important for children, as they may be more vulnerable to infections. Proper training in hygiene skills helps children to maintain their health.

Hygienic measures reduce the risk of disease, which, in turn, reduces the cost of medical treatment and reduces the burden on healthcare. The combination of these benefits makes hygiene measures an important component of public health and personal health. They help prevent many diseases and contribute to maintaining a safer and healthier environment for everyone¹².

Management of chronic diseases is also very important and plays an important role in maintaining the health of patients. Effective management of chronic diseases helps patients to control symptoms and improve their quality of life. This includes reducing pain, discomfort, fatigue and other unpleasant sensations. Management of chronic diseases makes it possible to prevent or slow down the development of complications and consequences of these diseases¹³. For example, in well-controlled diabetes mellitus, the risk of complications, such as vascular diseases and vision loss, is reduced.

Good management of chronic diseases reduces the likelihood of hospitalizations and emergency medical interventions, which reduces the burden on

the healthcare system and reduces treatment costs. Effective management of chronic diseases contributes to prolonging the life expectancy of patients, as they can better control the risks of complications and death. This method also allows you to reduce medical costs by preventing complications and reducing the need for expensive treatment.

When patients successfully manage their chronic diseases, they feel more control over their health and feel confident in their abilities. Patients managing their chronic diseases can more easily maintain social ties and participate in public life¹⁴. This method also includes educating and informing patients about their condition and ways to improve their health, which contributes to their active participation in the treatment process.

All these advantages make the management of chronic diseases an integral part of modern healthcare and allow patients to live a more active, healthy and long life. It is also important to consider such a method as psychological support. It helps patients cope with depression, anxiety, stress and other psychological problems, which contributes to improving their mental health. With the help of psychological support, patients can improve their relationships, emotional well-being and overall quality of life. Psychologists help patients develop effective strategies for managing stress and adapting to life changes, which helps reduce the risk of developing psychosomatic diseases¹⁵.

Psychological support can be especially useful in times of crises, losses and difficult events, helping patients cope with emotional and psychological stress. It can help to comply with medical recommendations, improve sleep, reduce the risk of cardiovascular diseases and other physical problems. Also, this technique teaches patients self-help skills that they can use in everyday life to maintain their mental and physical health.

Psychological support can be aimed at helping the families and loved ones of patients so that they can better understand and support their loved ones in difficult moments. It allows patients to develop adaptive skills that help them successfully cope with life challenges and changes. All these benefits make psychological support an important part of comprehensive patient health care, contributing to their physical and emotional well-being.

Information campaigns also have many advantages and an important role in society. They allow you to disseminate important and relevant information on various issues, including health, education, safety and other aspects of life¹⁶.

Campaigns provide access to educational and informative resources, which contributes to raising the level of knowledge and awareness in society, contribute to the formation of critical thinking and help people make informed decisions, including the choice of products, services and political positions¹⁷.

Information campaigns on health, safety and hygiene help prevent diseases, reduce injuries and contribute to the general well-being of the population.

Discussion

It is also necessary to consider the problem field of these prevention methods and determine ways to solve them. Vaccination has many advantages, but it is also accompanied by some disadvantages. It is important to understand these shortcomings and work to eliminate them. First of all, these are refusals from vaccination and vaccinophobia. Effective educational campaigns and information programs can help overcome vaccinophobia and increase awareness of vaccines. It is important to provide access to reliable information and to advise those who doubt¹⁸.

Another problem is the imperfection of vaccines. The way to solve this problem can be the continuous research and development of more effective vaccines, including vaccines that can fight pathogen variants that may change over time.

The resistance of some community groups to vaccination can be overcome through working with community leaders and communities to ensure their support for vaccination. It is also important to proactively involve different groups and take into account their concerns and needs¹⁹.

The disadvantages of hygiene measures should also be considered. Not all people have sufficient knowledge about the importance of hygiene measures and how to perform them correctly. This may lead to insufficient effectiveness of preventive actions.

Some patients may ignore the rules of hygienic behavior due to inattention, laziness, or lack of motivation. The use of antimicrobial agents without proper control can lead to the development of resistance to them in microorganisms, which makes the treatment of infections more difficult²⁰.

Encouraging and motivating people to comply with hygiene standards, for example, through awards, contests and public recognition, can contribute to more active participation in preventive measures. State and non-State organizations can provide access to clean water, soap and other necessary means of hygienic protection in places where it is limited. It is necessary to control the sale and use of antimicrobials, as well as the development of strategies to reduce the risk of developing resistance to them²¹.

Hygiene measures are critical to preventing the spread of infections and maintaining public health. Solving the shortcomings in their implementation requires efforts on the part of the state, educational institutions and society as a whole.

Management of chronic diseases may require significant time and financial resources both on the part of the patient and on the part of the healthcare system. For some patients, following the recommendations for the management of chronic diseases can be difficult due to the need to adhere to certain diets, take medications and exercise.

It is not always possible to find an effective treatment for chronic diseases, and doctors have to experiment with various methods and medications. Management of chronic diseases can cause stress, depression and anxiety in patients, especially if the disease progresses or is accompanied by painful symptoms²².

Patients should be provided with information about the chronic disease, its consequences and management methods, and develop an individual treatment plan that takes into account the characteristics of each patient. It is also necessary to increase the emphasis on the prevention of chronic diseases through a healthy lifestyle and early detection of risk factors, as well as the creation of more effective systems of care for patients with chronic diseases, including teamwork of medical personnel and the use of telemedicine.

Psychological support plays an important role in improving people's mental and emotional well-being, but it can also have its drawbacks. One of them is the lack of availability of psychological support. The use of telemedicine platforms and online consultations can expand the availability of psychological care, especially for people in remote or hard-to-reach areas. State and public organizations can invest in creating more psychological care centers and reducing barriers to access to them²³.

Another problem may be a long wait for an appointment with a psychologist. The organization of crisis centers and hotlines can provide quick access to help in case of crisis situations. An increase in the number of professional psychologists and psychiatrists can reduce waiting lists and reduce waiting.

Financial barriers can be an important problem. Expanding insurance coverage for psychological support services can reduce financial barriers for patients. The state and non-profit organizations can create programs that provide free or inexpensive consultations with psychologists.

Information campaigns can be a powerful tool in the prevention of respiratory viral infections in patients with chronic diseases, but their effectiveness depends on careful planning, adaptation to specific conditions and attention to shortcomings and possible ways to eliminate them.

Conclusions

Prevention of respiratory viral infections in patients with chronic diseases plays a critical role in maintaining their overall health. People suffering from chronic diseases such as bronchial asthma, chronic obstructive pulmonary disease (COPD), diabetes mellitus and cardiovascular diseases have an increased risk of complications from respiratory viral infections, including influenza and the COVID-19 virus.

Vaccination is one of the most effective ways to protect patients with chronic diseases from respiratory viral infections. Regular vaccination updates and vaccination against influenza and COVID-19 are recommended for this group of patients.

Patients with chronic diseases should adhere to hygienic protection measures, such as regular hand washing, wearing masks in public places, avoiding large crowds of people and maintaining social distance. They should maintain control over their chronic diseases through regular consultations with doctors and adherence to prescribed treatment. A well-controlled chronic disease can reduce the risk of complications from infection. Since each patient with chronic diseases has their own unique needs and risks, it is important to provide individualized medical care and advice on the prevention of respiratory infections.

In general, the prevention of respiratory viral infections in patients with chronic diseases requires a comprehensive approach, including vaccination, compliance with hygiene standards and increased care for their health. These measures will help reduce the risk of complications and improve the quality of life of this group of patients.

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