Experience of Formation of Adherence to Treatment of Patients with Bronchial Asthma for Disease Management

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Abstract

Analysis of the type of attitude to the disease of 127 patients with bronchial asthma showed that their attitude to the disease is inadequate. To form adherence to the treatment of patients with bronchial asthma, a comprehensive program for the formation of adherence to the treatment of patients with bronchial asthma was developed. There is an impact on the cognitive, motivational, behavioral and emotional components of the relationship to the disease. The program was tested on 125 patients with bronchial asthma. In all patients with the formation of adherence to treatment, there was an increase in the effectiveness of treatment compared with the group of patients who took only a course of standard therapy. Women have learned to manage their disease.

Keywords: Bronchial asthma; Adherence to treatment; Formation of adherence to treatment; Motivation for treatment

Relevance of the Study

The doctor and the sick person take part in treatment. In some chronic diseases, it is not enough to take the medicine at the prescribed time [1]. You need to change their way of life, diet, living conditions, hygienic habits, to do special exercises, to learn techniques of self-control and Samovodene and to control the course of their disease [2]. The patient is required to actively participate in the treatment [3]. This is necessary, for example, in bronchial asthma. A sick person should follow a diet with the exception of some products, do not engage in some sports, do not have Pets at home, some plants, regularly conduct wet cleaning, have bed linen of a certain material. He must perform exercises that facilitate the discharge of sputum, properly do therapeutic inhalations, know the signs of exacerbation of the disease and take the necessary measures in time, be able to independently stop the attack of bronchospasm, regularly carry out at home the measurement of breathing, be able to interpret the results and identify signs of deterioration of the disease for timely.

Meanwhile, a number of researchers found that due to various reasons, patients do not follow the doctor’s recommendations [4,5]. The main causes were identified as follows: lack of motivation, low efficiency of therapy, lack of desire to change the lifestyle, distrust of the doctor, high cost of drugs, low awareness of the possible prognosis of the disease and the real consequences [6,7]. Adherence to treatment is the degree to which a person’s behavior in relation to medication intake, lifestyle changes, doctor’s recommendations [8].

According to a number of authors, patients’ adherence to chronic diseases ranges from 43% to 78% [9]. Meanwhile, low adherence to the doctor’s recommendations on medication regimen and lifestyle changes correlates with a significant deterioration in the course of the disease, increased mortality and an increase in the cost of treatment in the United States [9].

Therefore, the development of ways to form patients’ adherence to treatment, including in patients with bronchial asthma, is relevant.

The aim of the study was to develop a comprehensive program for the formation of patients with asthma adherence to treatment.

Object and Methods of Research

The study was conducted on the basis of the pulmonological office of the city polyclinic № 5 in Samara. 55 men (mean age 38.8 ± 3.7 years) and 72 women (mean age 35.9 ± 3.6 years) were examined. All observed patients had bronchial asthma of moderate severity. Clinical survey, clinical examination, laboratory, functional, endoscopic, radiological methods of research, allergological tests were used. Purposefully conducted a survey on the implementation of medical recommendations...
and compliance with the rules of taking the drug. The questionnaire "Type of attitude to the disease" was used. This questionnaire was developed at the St. Petersburg psycho-neurological Institute named after Bekhterev and is aimed at identifying the relationship to their own disease by a sick person [10]. This method allows to diagnose 12 different types of attitude to the disease: harmonious, alopaticos, anosognosia, anxious, hypochondriac, neuroathenics, melancholic, apathetic, sensitive, egocentric, paranoid, dysphoric. A sick person chooses the statements that are most true to him. With the help of a special key answers are translated into points on the scales. When diagnosing the type, a scale with the maximum value of the sum of diagnostic indicators is found. If the scale with the maximum rating remains the only one and there are no other scales with a difference of 7 points, then one type of attitude to the disease is diagnosed. If another or two scales fall into the diagnostic zone, then a mixed type is diagnosed, which is indicated by the names of the scales that make up it. Analysis of the results of the study was carried out using conventional methods of statistics.

**Obtained Result**

All 127 patients had bronchial asthma of moderate severity. Patients were prescribed basic therapy in the form of inhaled corticosteroid. The discipline of treatment was low. Patients receive inhalers free of charge, in the clinic at the place of residence. They had no problem buying the drug or having no money for the drug.

Patients missed inhalations. Independently reduced daily doses. Inhalers for maintenance therapy (β-agonists) patients were sometimes used more than 4 times a day. It is not possible to identify the exact dose of drugs. Patients deceive the doctor in order to continue to receive free expensive inhalers. The doses that they actually used do not meet the standards for the treatment of bronchial asthma of moderate severity. Meanwhile, they really need systematic therapy.

As can be seen from table 1, the examined patients with bronchial asthma really need special treatment.

In 19 men, the type of attitude to the disease was determined. In 7 men (30%) there was a hypochondriac type of attitude to the disease-focus on subjective feelings, exaggeration of suffering, searching for non-existent symptoms, the requirement of careful examination and fear of harm and painfulness of procedures. A mixed type of attitude to the disease was revealed in 12 men (70%). Nine people had an alarmingly hypochondriac type (75%) -focus on subjective feelings, exaggeration of suffering, searching for non-existent diseases, anxiety and suspiciousness about the course of the disease and the diagnosis, about possible complications, the danger of treatment and prescribed drugs. Three people had a hypochondriac-melancholic (25%) type of attitude to the disease-focus on subjective feelings, exaggeration of suffering, side effects of drugs, disbelief in recovery, in improving the condition.

In 18 women, the type of attitude to the disease was determined. In 9 women (50%) there was a hypochondriac type of attitude to the disease-focus on subjective feelings, exaggeration of suffering, the requirement of careful examination and fear of harm and painfulness of procedures. Five women (29%) had a mixed type of attitude to the disease. In 3 women (17%) it was alarmingly hypochondriac-focus on subjective feelings, exaggeration of suffering, searching for non-existent diseases, continuous anxiety and suspiciousness about the course of the disease, possible complications, inefficiency and danger of treatment. 1 woman (5%) had a dysphoric-hypochondriac type of attitude to the disease a gloomy-embittered mood, envy and hatred for the healthy, a tendency to blame others for their illness, focus on subjective feelings, exaggeration of suffering, symptoms, searching for non-existent diseases. One woman (5%) was found to have an alarmingly sensitive type of attitude to the disease-fears that others would consider her an inferior member of society, would neglect her, continuous anxiety and suspiciousness about the course of the disease, possible complications, the danger of treatment. Three women (17%) were found to have a dysphoric type of attitude to the disease-dominated by a gloomy and embittered mood, envy and hatred for the healthy, outbursts of anger combined with the desire to blame others for their illness, with the requirement of special attention to themselves, suspicion of procedures and appointments, the requirement from relatives and staff of constant gratification.

Thus, the obtained data showed that patients really have bronchial asthma and need treatment. Their attitude to the disease is inadequate. They do not consider it necessary to take the prescribed treatment, are suspicious of drugs and procedures, while they have concerns about their disease, they exaggerate the suffering, require increased attention to themselves, focused on their own subjective feelings. Their attitude to their disease is inadequate-excessive anxiety for health and at the same time fear of treatment, fear of drugs, focus on subjective feelings and ignoring doctor's prescriptions. Suspicion of drugs and their side effects. Excessive demands on family members, surrounding and medical personnel, the removal of any responsibility for the course of the disease, shifting responsibility to others.

Taking into account the data obtained from 127 patients with bronchial asthma, a comprehensive program for the formation of adherence to treatment of patients with bronchial asthma was developed.

In psychology, when analyzing the attitude to any phenomenon, the study is carried out on three components: cognitive, motivational-behavioral and emotional. The cognitive component is the knowledge at the conceptual level. Motivational-behavioral component is the development of a new strategy of behavior. The emotional component is the emotional acceptance of a new behavior strategy.

The results showed that the ratio of patients with asthma to their disease and treatment is inadequate. Cognitive, motivational-behavioral and emotional components of the attitude to the disease and treatment do not correspond to reality. Therefore, in order to form the adherence of patients with bronchial asthma to treatment, it is necessary to purposefully influence all three components in the right direction. It is necessary to form a motivation for the active implementation of doctor's appointments. The patient should understand the meaning of appointments, know the criteria for the correct execution of appointments, as well as change their behavior.

If the patient does not realize the meaning of changing lifestyle, eating habits and the need to follow the prescriptions accurately, then he develops resistance to the doctor's prescriptions. It can be active-do not perform assignments, or passive-perform inaccurately, with violations.

The possibility of developing resistance to doctor's prescriptions and recommendations should be taken into account when forming adherence to treatment. Therefore, the integrated treatment adherence programme has an impact on all three components of treatment and disease.
The impact on the cognitive component is targeted information. The patient should present schematically the pathogenesis of the disease; know the factors that provoke exacerbation, directions of therapy and ways to control the course of the disease.

The impact on the motivational-behavioral component is that the patient is motivated to control the disease and improve health. Every sick person has a secondary benefit from the disease. It can be an improvement in the attitude of relatives and family members, compassion for the patient, increased focus, relief from certain duties, unpleasant, or painful, some of the perks in life. If a sick person exactly follows the doctor’s recommendations, then his disease will be under control and he will lose these privileges, pity and attention of loved ones. Therefore, the benefits of relieving the symptoms of the disease should exceed the benefits of attention, pity, privileges. In each case, only a thorough conversation between the doctor and the patient can reveal these hidden benefits of the disease and symptoms. And only a careful questioning of the doctor about the aspirations and desires of a sick person, which are not realized in connection with the disease, can help to find targets for purposeful motivation.

The study found that asthma patients tend to exaggerate their suffering and symptoms. They are afraid of manifestations of the disease and limit their activity in life. The doctor can explain that the control over the course of the disease and symptoms can significantly expand the horizons of life, increase activity, change the usual way of life, get out of the captivity of the disease, and stop significantly limiting the life of a sick person. For example, if someone is afraid to travel for fear of developing a choking attack on the way, it can be explained that careful execution of all assignments will keep the disease under control. A sick person will be able to determine the beginning of the attack and provide himself with the necessary assistance in time. Thus, he is no longer tied to his hospital and doctor. The doctor needs to identify the need of this person, and based on this need, create motivation for treatment.

The impact on the emotional component is in a friendly environment, in the support and approval of the sick person during the impact on the information and motivational components.

There is an emotional memory - emotions that are closely related to the event. Remembering the event, a person re-experiences the same emotions as at the event itself. An attack of bronchospasm always causes fear of death, fear of suffocation, not to take another breath. Therefore, the attack is always associated with a lot of negative emotions. When teaching the use of an inhaler, with self-help in an attack, the doctor should give a lot of positive emotions, encourage, endorse. And at the same time he creates motivation for careful performance of this skill at home independently, representing the attractive future at development of this skill-travel, change of work, opportunity to marry (depending on the revealed needs of this person). If the patient does not get this skill, then you do not need to scold him, criticize, thereby causing negative emotions. The doctor should transfer the responsibility for the wrong performance on themselves. Say "I you quickly showed, not enough explained." And start over. Practicing the skill takes about 7 min to 8 min. Then the sick person answers the control questions on the topic of the lesson. As they relate to technology implementation skills, and information on it. This is the final control of the whole class. If a sick person does not answer most of the questions, or is mistaken in the technique of performing the skill, then the lesson should be repeated. Next time you see a doctor.

In General, one training unit-one skill requires about 12 min to 15 min. Each visit to the doctor mastered one educational unit. Therefore, lesson information is stored in separate folders. Each lesson is numbered and marked by subject. There is a plan of each lesson, a summary of each lesson, a list of illustrations. For each lesson developed questions on the success of the assimilation of information and the skill as a whole.

The card makes a record of the lesson; it is enough to specify the number of classes. Since the doctor before the program of formation of adherence to treatment carefully collects anamnesis and reveals the hidden benefits of the disease and possible motivations for treatment, it is useful to write them in a separate notebook. Before the patient’s visit, they can be refreshed in the memory of the doctor, if necessary.

The training units were as follows.

1. Self-help with an attack of suffocation (the skill of using an inhaler).
Evaluation of the effectiveness of the developed program of formation of adherence to treatment was carried out according to the following criteria: subjective changes experienced by the patient in the internal world; objectively recorded parameters characterizing the dynamics of changes in attitude to the disease, and clinical indicators. Changes in the internal world subjectively experienced by the patient were evaluated in a clinical conversation. As objectively recorded parameters, the type of attitude to the disease was re-used.

The analysis of clinical indicators important in the treatment and control of bronchial asthma was carried out.

At the same time, some patients with bronchial asthma received standard therapy without a program of formation of adherence to treatment. Standard therapy in patients did not differ. All patients had bronchial asthma of moderate severity and therapy meets the standards of treatment of the 125 patients enrolled in the programme, 75 were women and 50 were men. Their age was from 18 to 72 years. 18 men suffering from bronchial asthma were examined using the test "Determining the type of attitude to the disease" before and after treatment. They also had a determination of the type of attitude to the disease before and after standard treatment. The results of the study of the type of attitude to the disease in men of these groups are presented in table 2.

Table 2 presents the results of a survey of the type of attitude to the disease in men suffering from bronchial asthma before and after standard treatment. The results of the study of the type of attitude to the disease in men suffering from bronchial asthma before and after the application of the program.

The results of the presented table 2 shows, in men with bronchial asthma on the background of standard treatment there is a tendency to harmonize the type of attitude to the disease. However, this trend is not statistically significant. When using standard therapy simultaneously with the formation of adherence to treatment, the tendency to harmonize the type of attitude to the disease has become statistically significant. The number of men with a hypochondriac type of attitude to the disease decreased, a greater number of patients with a diffuse type of attitude to the disease appeared.

Table 3 shows the dynamics of important clinical indicators in men suffering from bronchial asthma before and after the application of the program.

2. Peak flowmetry (skill use peak flow meters).
3. The analysis of the curve the peak flow rate (skill of identifying correction treatment).
4. Therapeutic physical culture (the skill of drainage exercises).
5. Lifestyle of a patient with bronchial asthma (the skill of keeping a food diary, compliance with the requirements for the elimination of allergens from the home-washing bed linen, wet cleaning, correction of sports). It is important that the information concerned only this person was not abstract. The doctor gives clear instructions, taking into account the peculiarities of work, residence of this person. Depending on the amount of sputum the doctor may recommend decoctions of herbs for better drainage of sputum, but taking into account the presence of allergies in the patient. There may be other recommendations, depending on the characteristics of the disease. According to this program, a commitment to treatment was formed in 125 patients with bronchial asthma, who visited a doctor in the pulmonological office of the fifth city polyclinic of the city of Samara. There was no selection. All patients with bronchial asthma are registered with a pulmonologist. All of them at the place of residence belonged to the fifth clinic. The formation of adherence to treatment went in men and women of any age.

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men with bronchial asthma on the background of standard therapy with and without the program of formation of adherence to treatment.

As the results of the presented table show, in men after the course of therapy there is a positive clinical dynamics (a significant decrease in day and night symptoms, a decrease in the use of bronchodilators). However, in men who developed adherence to treatment simultaneously with therapy, the number of day and night symptoms became significantly lower.

Thus, the effectiveness of treatment of men with bronchial asthma identical course of therapy using the program of formation of adherence to treatment was higher.

Women suffering from bronchial asthma were also examined using the test "Type of attitude to the disease."

Table 4 presents the results of a survey of the type of attitude to the disease in women with bronchial asthma, with standard therapy using the program of adherence to treatment and without the use of this program.

As the results of the table show, the type of attitude to the disease statistically changed in all women surveyed. However, in treatment adherence, the number of women with a hypochondriac type of attitude to the disease disappeared and the number of women with a mixed type of attitude to the disease increased. This indicates the harmonization of the type of attitude to the disease.

Table 5 shows the dynamics of important clinical indicators in women with bronchial asthma on the background of standard therapy with and without the use of adherence to treatment.

As the analysis of the table shows, in women after the course of standard therapy, the number of day, night symptoms, as well as bronchodilators used, decreased statistically significantly. However, the number of daily symptoms and the number of inhalations of bronchodilators in women, the standard treatment of which was carried out against the background of the formation of adherence to treatment, statistically significantly decreased.

Thus, the effectiveness of treatment of women with bronchial asthma identical course of therapy using the program of formation of adherence to treatment is higher.

**Discussion of Results**

Bronchial asthma is a disease with a long course. Patients repeatedly underwent treatment, experienced numerous attacks of suffocation with fear of death, were treated by different doctors. They share their experiences of treatment from other patients, discuss symptoms. During the discussion, patients convey to each other not only distorted information, but also their own negative experience of treatment, share fears of an attack, treatment and side effects of drugs, and transmit negative emotions. They are adults. They have some life experience and treatment experience. And this experience should be taken into account when forming adherence to treatment.

The study showed that the ratio of patients with asthma to the disease is inadequate. Providing them with scientific, objective information from the doctor, training in self-control skills for their own disease is inadequate. Providing them with scientific, objective information from the doctor, training in self-control skills for their own disease has changed the attitude of patients to their disease in the direction of harmonization. This change statistically significantly.

In the formation of patients with asthma adherence to treatment there was no selection of patients. The only criterion was the territorial belonging of patients to this clinic. Therefore, the age of the patients was very different. And in all patients who passed the program of formation of adherence to treatment, the effectiveness of treatment was significantly higher.

In the author's opinion, the teaching methods play a role in this. With adherence to treatment it is necessary to articulate in front of the sick man of learning objectives, and it needs them to be aware. He should not be given abstract knowledge about the course of the disease and treatment. He needs to provide specific information, taking into account the course of his illness and his condition, the presence of allergies to certain factors and characteristics of work and social functioning. Adults do not always remember information well,
they quickly grasp it. They should be given the opportunity to study it at home, on their own, without time limits. It is useful to develop control questions. They help to navigate the degree of development of the material.

Adherence to treatment was also formed for the following reason. Sometimes, when informing or teaching a skill, patients may not be able to answer questions correctly or have difficulty performing the skill. You don’t have to embarrass them. The doctor should immediately come to the rescue, help unobtrusively, easily. It is useful to note the slightest achievements of patients in the formation of commitment, to praise them, to encourage further activity. In adults, it is necessary to constantly maintain feedback. The older the students with bronchial asthma, the more important the constant feedback. A sick person should always feel the goodwill of the doctor and a sincere desire to help the patient. And then the patient makes maximum efforts in the development of skills. Thus, positive emotional reinforcement of treatment adherence plays an important role.

Adherence to treatment was also formed due to the choice of motivation for treatment. Motivation is based on the real needs of the individual patient. This need should be relevant for him. For example, in some men, the motivation to comply with all assignments was to increase sexual activity. Some women were motivated to go to another country. Some elderly people were important to be able to attend the theater, the Philharmonic, which they avoided because of the possibility of developing an attack of suffocation. Some of the young women was an important opportunity for the extension of social activity, visits to various clubs, expanding circle of acquaintances. Even this list allows us to understand that the motivation for treatment varies greatly in patients of different sex and age. And the doctors without an individual conversation even suggest the need for this patient with bronchial asthma, which can be a motivation for treatment. But if the motivation is chosen correctly for this person, he will follow the recommendations of the doctor and follow his prescriptions.

The results showed that men who underwent standard therapy significantly reduced the number of day attacks and symptoms. This number decreased in those who underwent the program (T=4.5), and those who received a course of standard therapy (T=1.5). There was a statistically significant difference between the groups of men (T=2.2) who were trained and who did not pass. After the course, the number of day attacks is significantly lower.

The number of night attacks decreased in all men who underwent therapy, both those who were trained (T=3.6) and those who did not pass (T=2.8). At the same time, there is a significant difference in the indicators of groups (T=1.8). In those men who have formed a commitment to treatment, the number of night attacks was significantly lower.

The formation of adherence to treatment in men significantly reduces the manifestations of the disease in the form of day and night symptoms.

The number of used bronchodilators decreased in both groups of men. There was no statistically significant difference between the groups of men. The number of bronchodilators in men is affected not by adherence to treatment, but by the passage of a course of standard treatment.

Growth of FEV-1 did not show statistically significant values. No adherence to treatment or therapy did not affect the indicator.

Thus, the formation of adherence to treatment in men reduces the number of day and night symptoms and the number of bronchodilators used. The main symptoms of the disease are reduced. The effectiveness of treatment has increased.

Men after the formation of adherence to treatment are able to control the symptoms of their disease, manage it.

In women, the number of day attacks has not decreased in women who have undergone standard therapy. The number of daily seizures decreased in women after treatment adherence training (T=3.3). The difference between groups of women who have been trained and who have not (T=1.6) is statistically significant.

The number of night attacks after treatment decreased in both groups of women who were trained (T=3.3) and who did not pass (T=3.6). There is no difference between groups of women. The number of night attacks in women is affected by the course of treatment, not adherence to treatment.

The number of inhalations of bronchodilator significantly decreased in women after the formation of adherence to treatment (T=3.6). Although in the group of women who underwent standard therapy, also decreased (T=2.2). But the difference between the groups of women using bronchodilator with training is statistically significant (T=1.6). The indicator of the amount of bronchodilator indicates the effectiveness of basic therapy, the ability to independently adjust the dosage of the drug. Thus, women after training adherence to treatment really know how to control the course of their disease, manage their disease.

FEV-1 increased after treatment in both groups of women, with training (T=1.4) and without training (T=1.2). But there is no statistically significant difference.

Thus, after the formation of adherence to treatment in men on the background of standard therapy significantly decreased manifestations of the disease, they reduced consumption of bronchodilator. For men, it is important to timely undergo a standard course of therapy.

In women, after the formation of adherence to treatment, the manifestations of the disease also decreased. Women began to really control their disease, learned to manage their disease.

The course of standard therapy was effective in both men and women. But women, after training in the developed program and developing adherence to treatment, began to really control the symptoms of their disease and manage it. Training has been more effective for women than for men.

**Summary**

1. The attitude of men and women with bronchial asthma to their disease is inadequate.

2. The developed program of formation of adherence to treatment has proved its effectiveness. The program affects the cognitive, motivational, behavioral and emotional components of the attitude to the disease.

3. After the formation of adherence to treatment, attitudes towards the disease have changed towards harmonization in both men and women.
4. Treatment of patients with bronchial asthma men and women, who have been formed adherence to treatment using this program, was significantly more effective than just treatment with standard therapy.

5. Women are better than men, have learned to control their disease, manage bronchial asthma.

References


