



PROPHYLAXIS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE PROPHYLAXIS, CONTROVERSIAL AND PROSPECTIVE MEDICAL- ECOLOGICAL ISSUES

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Annotation

a review of scientific sources has been presented and proved that chronic obstructive pulmonary disease (COPD) has become a global problem in the world today. One of the main reasons for this is that it is diagnosed late and at an almost irreversible stage. Another reason for the seriousness of the OSOK problem is considered to be the ecological situation, which has begun to be recognized as unacceptable. In order to study, evaluate, stop and eliminate these inappropriate cases of OSOK, it is appropriate and a modern scientific priority to organize and perform research based on comprehensive eco-epidemiological and prospective pharmacoscreening monitoring.

Key words: chronic obstructive pulmonary disease, prevention, ecoepidemiology, pharmacoscreening, epidemiology, population.

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Another disease directly related to the development, progression and complications of chronic obstructive pulmonary disease (COPD) is obstructive sleep apnea syndrome (OSAP), which is frequently reported at the population level. A characteristic feature of UAS is mild to moderate OSA, the frequency of its accuracy increases and the death rate from acute cardiovascular diseases increases.

Tseymak I. Ya., Shoikhet Ya. N. (2021) in a prospective cohort study in patients diagnosed with OSA in association with UAS ($p = 65$), investigated the relevant scientific question and reported promising results. For example, it has been proven that obstructive disorders of UAS are recorded with a frequency of 69.2% to 84.6% depending on the severity. And again, the authors confirmed the

following:

- Obesity in patients with combined OSC and OSA (OSC/OSA) is detected at a frequency of 84.6%;
- Pulmonary arterial hypertension is observed with a frequency of 23.1% in COPD/UOSc;
- Among the comorbid diseases of COPD/UOSc, hypertension is the priority (96.2 percent);
- stable angina 34.6 percent, paroxysmal form of atrial fibrillation 15.4 percent, QD2 type 26.9 percent, secondary erythrocytosis 19.2 percent, chronic heart failure 61.5 percent are detected in OSOK/UOS with prevalence frequency;
- Systemic inflammatory state in OSOK/UOASk (its markers - SRO, TNF - α , IL - 6 and IL - 8) is observed expressed by changes in THF - α Tumor necrosis factor - α TNF - α and TL - interleukins ;
- systemic inflammation is associated with increased indicators of endogenous secretion of insulin S-peptide and increases insulin resistance;
- systemic inflammation is simultaneously expressed in the blood serum in connection with the dysfunction of the vascular endothelium and the increase of the factors that indicate a tendency to thrombus formation (ET-1, VEGF and GTs);
- SRAR therapy in COPD/UOAc is highly effective as a pathogenetic treatment and reduces the need for long-term oxygen therapy [15].

Other researchers have also studied and evaluated the epidemiology and clinical course of OSOK/UAS in geographical and ecological contexts. Soler H. et al. (2015) in a scientific epidemiological study, the frequency of detection of OSOK/UOASk at the population level is 10.0 percent, second Gunduz C. et al. (2018) reported the prevalence of OSOK/SOASk with a prevalence of 20.0 percent among the population (65, 120). In the population of near and far foreign countries, Alekseeva O.V. etc. (2016), McNicholas W.T. (2018) and Xie J. et al. (2019), according to the data provided by researchers such as COPD, increases the frequency of comorbidity in almost two-thirds of patients (mainly CHD and cerebrovascular diseases), resulting in an increased risk of pulmonary hypertension, pulmonary thromboembolism, and death [1, 46, 58]. In a number of studies, the features of pharmacotherapy of OSOK/UOS were evaluated, for example, the effectiveness of SRAR therapy was studied. Specifically, Gottlieb D.J. et al. (2014) and Singh G. et al. (2019) have shown that long-term non-invasive

pulmonary ventilation (Constant Positive Airway Pressure - CPAP) in the spontaneous breathing mode with positive pulmonary air pressure in patients with chronic obstructive pulmonary disease/COPD combined improves quality of life. and is characterized by improved sleep, reduced risk of hospitalization and death of patients, and hypercoagulable changes in the hemostasis system [32, 50].

Specific symptoms of OSOK are important for epidemiological diagnosis. At this point, it should be pointed out that cough is a valuable diagnostic element, recognized and recommended by many researchers. The main symptom directly related to OSOC is chronic cough (SY) [18]. According to the results of epidemiological studies, the origin of SY is inextricably linked to tobacco smoke and its composition [31, 51]. Epidemiological studies have clearly recorded the prevalence of chronic cough associated with OSA (OSA b SY) at different age and population levels, as well as in certain regions of the world. Summarizing their general conclusions, it can be noted that the prevalence of OSOK b SY in the elderly population is primarily associated with demographic recommendations [19,30,41,46]. OSOK b SY is recorded with a prevalence of about 10.0 percent in the general large population of the world, with a high frequency in Europe and America, with a relatively low prevalence in Asia and Africa [52].

When the chronic cough approach to COPD increases, it puts the patient in an uncomfortable position, and this happens not only in pulmonary, but also in the case of extrapulmonary clinical symptoms: note-taking, hoarseness, sleep disorders, increased feeling of shame and guilt in front of others, difficulty talking on the phone (due to SY), urinary incontinence and discomfort in the family, work colleagues and friends are among these [29]. At least 8 unpleasant symptoms appear due to chronic cough, and COPD worsens under their influence and negatively affects the patient's quality of life as a strong pathogenic factor: stress urinary incontinence, speech difficulties, depression and lethargy are among them [28, 29]. It is clear from the above comments that many problems remain on the scientific front, and there is no doubt that many of them can be solved only through epidemiological studies.

In this regard, we draw our attention to the multidisciplinary hospital of Kazan, Russia, between 01.01.2015 and 12.31.2018, zinatulin A.R. and Khamitov R.F. A retrospective epidemiological study conducted by. Medical cards (423) of patients with OSOK were taken as the object of the study.

¹Morice A.H. Epidemiology of cough//Pulm. Pharmacol. Ther. - 2002; 15 (3): 253 – 259.

Non-modifiable risk factors (gender, ≥ 70 years of age) have been confirmed to be responsible for the recurrence of OSA in this geographically-ecologically diverse region, and therefore it is recommended that the focus should be on client compliance. As risk factors - smoking experience ≥ 40 years, duration of COPD ≥ 10 years and presence of ≥ 3 related diseases [16]. Nodea S.P. et al. (2020) confirmed that smoking duration, hypodynamia, respiratory infections, severe obstructive disorders, comorbid pathology, and previous recurrences are the main risk factors of OSA [37]. GOLD data emphasizes that each OSA recurrence is caused by the client's life. disrupts the way: it increases the intensity of the symptoms of the disease, increases the intensity of the decrease in the function of the lungs, and is associated with an increase in the rate of death in comorbidity [33].

According to the data of the Russian Respiratory Society (2018), 50-80.0% of patients with COPD die from respiratory causes [10]. A well-known Russian expert in the field of comorbid pathology, Academician I.E. In a study conducted under the leadership of Chazova (2020), in turn, it was emphasized that, firstly, comorbidity is considered to be a permanent and integral part of COPD, and secondly, extrapulmonary pathologies are confirmed as the cause of death in 50.0 percent of cases [12]. Such complications of COPD and its development is definitely influenced by its risk factors. The need to take this into account is emphasized by researchers most often in clinical-epidemiological investigations. Nevertheless, based on our meta-analyses, the scientific results obtained in this

regard are not enough, but there are "new preventive and pharmacotherapeutic scientific views" on OSOK [2,4,7,9,17,20].

Umyagina I.A. etc. (2021) conducted a study of 116 patients with OSC of occupational origin and found that serum concentrations of oxidized low-density lipoprotein (LDL) in OSC were more than twice the normal range. OPZLP was detected with a prevalence of 16.5% in patients and/or increased 4-10 times compared to the control group. Its strong association with dyslipidemia (DLP), inflammatory markers (SRO) and oxidative stress has also been confirmed [11]. It has been confirmed that the increase of PZLP in the blood serum of patients with COPD is accompanied by a decrease in the ventilatory function of the lungs, an increase in the inflammatory process and oxidative stress (OS) [20, 23].

Vasileva O.S. etc. (2021) studied the risk factors of KEO'SOK in 76 men and women. The examined population worked as workers in the food industry and were constantly in contact with toxico-allergenic aerosols and organomineral dusts. In the 5-year prospective follow-up, the frequency of detection of respiratory symptoms of KEO'SOC increased by 36.8%, and the indicators of external respiratory function (TNF) decreased more and more. In workers, the presence of the £1-AT hyposector PIMZ variant, manifested by disruption of cytokine status, and glutamine-S transferase (GSTM % and GSTT %) gene splicings were confirmed as XOs related to individual KEO'SOK origin [5].

In the development of KEO'SOK, exposure to aeroplutants of the production environment and specific agents of the workplace - allergens, dust particles, steam or smoke is also confirmed as a risk factor (XO) [25].

According to the Thirteenth Session of the Joint ILO/WHO Committee on Occupational Health (International Labor Organization), 2.5 bln. there are working people and 2 million of them die due to occupational diseases at work. Occupational factors are confirmed as the cause of the development of 15-20.0% of OSOK [57].

OCD caused by occupational risk factors develops slowly, slowly and with delay, often "appearing" not only in old age. It is difficult to isolate the occupational risk

factor, but several studies have nevertheless confirmed that from 9.0 to 25.0 percent of all cases of KEO'SOK are caused by smoke, gas, and dust of workers in the mining industry, textile industry, maintenance companies, and agriculture. depends on the effect [26].

Almost all researchers show that risk factors are important in the prevention and treatment of COPD, for example, in the selection of bronchodilators for this purpose..

Kupaev V.I. and Osipov D.A. (2021) compared the efficacy of long-acting anticholinergic drugs (DTAXP) and long-acting β 2-agonists (DTBA) in patients with acute nicotine-dependent COPD (p = 121 patients). One group of patients (Group 1) received tiotropium bromide 5 μ g and glycopyrronium bromide 50 μ g, and the second group of patients (Group 2) received DTAXL/olodaterol (5/5 μ g) and glycopyrronium bromide/indacaterol (50/110 μ g). The first group consisted of those who stopped smoking, and the second group consisted of those who continued to smoke. Outcome was not significantly different between the two groups, with only smoking cessation being the key significant factor, or the only statistically significant increase in treatment efficacy [7].

In most of the studies, another attention-seeking situation is prominent. It consists in the fact that patients treated with OSOK were not divided into "smoker" and "non-smoker" groups; 30-43 percent of patients could not quit smoking despite the deterioration of their condition [53].

The main reasons for failure to quit smoking are high levels of nicotine dependence or advanced post-quit depression and obesity [24, 48].

It is also worth noting that the problem of eliminating the "negative chain" of smoking and OSOK is set by all researchers as the first important task in the processes of disease prevention, pharmacotherapy and rehabilitation [3,13,14,36,38]. There are grounds and reasons for this, in particular: • smoking continues to be widely recognized among the population, according to WHO data, 30.9 percent of the elderly population of the Russian Federation are active smokers. Among them, 32.1 percent of those who succeeded in trying to quit

smoking within one year, 88.8 percent of those who failed [34]; • According to the GOLD recommendation, the treatment of OSOK should be started with smoking cessation [49]; • but even when the most effective drugs are used in combination with psychological therapy (for example, with varenicline, bupropion, nortriptyline, cytisine), recovery is achieved only in 33.2 percent of cases, measured by zero tolerance criteria [47]; • patients with OSOC who cannot quit smoking are ignored by medical care, and the treatment based on smoking does not have more than "one-two" positive results [21]; • during our extensive literature review, we found only two cases where this "rule didn't work"! First, there was the UPLIFT study, in which during the 1st year of treatment patients, the forced expiratory volume (JDCh1) decreased by 54 ml per second in smokers, then by 36 ml in smokers, and by 23 ml in those who stopped smoking [56]. Second, J, Moita et al. (2008) study, in which the positive outcome of JNCh1 was higher in smokers when prescribed thiotriopium bromide (TIO) than in non-smokers [45]; • relatively "vibrant" clinical effect is observed in DTAXP and combined ultra-DTBA therapy in patients with COPD who smoke [7].

Viktorova I.B. etc. (2021) conducted a special retrospective study to study the frequency of respiratory diseases (RRD) in HIV-infected patients ($p = 185$). In this work carried out in the Kemerova region of Russia, the following were determined: 1) the prevalence of OSOC in the population living with the human immunodeficiency virus (HIV) (HIV b YaP) is recorded at the level of 10.3%; 2) 100.0% of the cases, smoking and intravenous narcotic drug intake are identified as relevant risk factors for the development and aggravation of OSOK; 3) 68.5 percent of OSOK patients had severe violations of bronchial permeability; 4) in 31.6 percent of patients, OSOK was caused by joining several diseases (pneumonia, tuberculosis and pneumocystosis) [6].

Lerner A.M. et al. (2019) and Fuzpatrick M.E. et al. (2018) in studies carried out in distant foreign countries, OSOC is detected in the 4th VII b population, and in addition, it is predicted that the prevalence of OSOC will increase in the HIV population in the future due to effective medical therapy and

the continuation of smoking [27, 42]. The mechanism of formation of VICH b YaP OSOK has not been thoroughly studied, but it is explained that the negative priority role is mainly played by a few XO. Among them, smoking, chronic lung inflammation in HIV infection, direct exposure to viral toxins, immune senescence, HIV-associated immunodeficiency, and relapse of HIV infection (including tuberculosis) have a special place [22, 43, 54]. .

An article by another researcher from the Russian Federation F.T. Malykhin (2021) that includes a large review of modern literature on the problem of OSOK attracts attention. It describes gender approaches, differences and risk factors.

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It is convincingly shown that PCOS is a debilitating disease with a significant and increasing burden on women's health [8].

Jenkins C.R. et al. (2016) and Malykhin F., Khripunova A. (2016), the death rate from OSOK is higher when compared to the death from low-grade tumors of the lung and mammary gland [39, 44].

Another conclusion from the review of researches is that currently, the difference in incidence of OSOK, both in men and women, in all countries of the world is disappearing. The issue of revising the scientific opinion that the disease prevails only in male smokers is raised and confirmed in more and more studies: 1) the disease is observed with a relatively greater frequency in countries with an average and low income; 2) at a relatively fast pace, the incidence of OSOK is significantly higher in women than in men worldwide; 3) In some countries, the frequency of death from OSOC has increased in women compared to men [9, 35, 40]. 4) more than 3 billion inhabitants of the globe suffer from the effects of smoke caused by the burning of biomass fuel (50.0% of housewives, 90.0% of women living in villages - in the process of preparing food and in other conditions), and mainly women face it [38, 53, 55].

It is clear that there is an urgent need to raise awareness among women and doctors about the increasing rate of PCOS.

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