

COPD, Fashion Smell Tobacco, Prevention and New Treatments: What's the Deal?

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Chronic Obstructive Pulmonary Disease (COPD) is a one of the most cause of morbidity and mortality worldwide. Age and smoking are common risk factors for COPD and can contribute to the fact of comorbidities [1]. Studies by The World Health Organization could estimates that COPD will be the third most common cause of death worldwide 2030, today it is current fifth ranking [2].

Evidences shows that tobacco consumption is quite widespread and present in most countries [4]. In general, this practice starts in adolescence and youth, with most adults smokers having stated using tobacco before the age of 20 years old [4].

COPD comorbidities is the term used to talk about the other diseases that independently coexist with COPD, and share common risk factors and pathways with COPD, diseases that are complicated by the interaction with the lung, and their systemic manifestations.

This term comorbidities really heterogeneity and It has been generating a discussion about the term “comorbidities”, to define a common agreement over its meaning. We can mention the comorbidities as such: Asthma, Lung Cancer, Pulmonary Fibrosis, Coronary Heart Disease, Hypertension, Congestive Heart Failure, Diabetes and Metabolic Syndrome, Stroke, Cachexia, and others [1].

There is not yet a definition accepted. Terminology issues through should not shift our focus from the fact that COPD patients with multiple diseases often have poorer outcomes and are in need of a more complex, tailored therapeutic intervention approach in order to optimize and achieve better outcomes [7,8] and the clinical doctors must believe in treatments that is new studies with good results, that can halt the progress of disease and be accessible to the patients, with low cost, non-side effect, non-contraindications and noninvasive.

Tobacco can be consumed in various forms: smoked-e.g., cigarette, hookah, waterpipe, rollup, among others [6], all of them are harmful to human health. Waterpipe has been used for centuries in Africa, Middle East and Asia [7,8], however, its consumption has grown in the West, among young people [9]. According to estimates, around 100 million people use waterpipe in the world [10].

The prevalence and consequences of COPD, is recognize by the social and economic impact. About tobacco use and dependence, the most recent evidence estimating over 700.000 hospital discharges annually [5,6]. In addition, the associated economic burden is vast. In USA, the estimate cost of COPD were approximately \$50 billion, compared to Europe, the total annual cost of COPD is estimated at 38.7 billion of euros [2].

The GOLD Guidelines is the best choice to holt and treatment of COPD [5]. The right choice of treatment can reduce COPD symptoms, the frequency and severity of exacerbations, and improve the health status and exercise tolerance by the patients, which means the best quality of life.

The main pharmacological treatment are: β_2 agonist, anticholinergics (short acting and long acting, SABA-LABA), anticholinergics (short acting and long acting, (SAMA-LAMA), combination short acting β_2 agonist plus an anticholinergic in one inhaler, combination long acting β_2 agonist plus an anticholinergic in one inhaler, methylxanthines, inhaled corticosteroids, combination long acting β_2 agonist plus corticosteroids inhaler, systemic corticosteroids, and phosphodiesterase-4 inhibitors.

Related to the main medication, LABA is a study that have been associated with high mortality and more time of hospitalization in patients with heart problem and can increase risk of incident heart failure in patients without problem [4]. Tiotropium, another type of treatment, used via orally, showed a reduction in the risk of cardiovascular mortality [11]. However, are associated with arrhythmias and can potentially the coexistent heart failure [5]. Another medication, Theophylline is also correlated with increased heart problems [9].

Unfortunately, none of the existing COPD medications have been shown efficacy to halt and restore the long-term decline in lung function.

The above described pharmacological treatment, is not enough, safety and has a huge severe side effect. Besides that, there is a new concept of treatment named Low Level Laser Therapy, that is a low cost, noninvasive, non-side effects, non-contraindications that has been studied and tested in experimental model and in clinical trials with COPD patients [14,15] and used clinically since 1981 in the treatment of patients with inflammatory pathologies [4]. For instance, some studies have demonstrated that non medication treatment with LLLT, for patients of bronchitis accelerates the elimination of clinical symptoms, increases the efficacy and promote better drainage of the bronchi, facilitate the improvement of immune status of patients, and contributes to optimization of lipid peroxidation [6,7]. According to the authors [18], the LLLT in experimental model of COPD can reduce lung emphysema, airway remodeling and chronic bronchitis. Related to the physiopathology the results of this study showed a reduction of cell migration into lungs, as well as inhibition of protein inflammatory secretion. According to another study [17] in a clinical study the treatment with LLLT increased the number of number of steps during the 6MST test and decreased the sensation of dyspnea and lower limb fatigue in patients with COPD.

Nikitin and Marks (2014), showed that the treatment with LLLT in combination with pharmacological treatment in COPD patients, indicates that patients had a sudden normalization of the clinical symptoms, reduce arterial pressure, improve the parameters of external respiration and increase the duration of remission periods. Kashanskaia EP, Fedorov AA., *et al.* (2009), reported that laser application combined with other therapeutic modalities for the treatment of patients with chronic obstructive bronchitis accelerates elimination of clinical symptoms, increase its efficiency, promotes drainage function of the bronchi, facilitates normalization of patient's immune status, and contributes to the optimization of lipid peroxidation process.

The important point to researchers is have their attention focus about COPD but not when the patient have diverse comorbidities and need primary and secondary palliative home care [18] that is an important intervention, but promote a good quality of preventive care with the youth people who started the consumption of a *fashion smell tobacco* and don't know how this practice is worst than the smoking tobacco consumption, will be more effective and less cost to governments and families.

The difficult part is liaising with hospitals, industry and doctors that new therapies could really help the patients and decrease the costs and side effects of the medications, but we hope that more studies could be published to clarify any doubts about the new environment of treatments, tobacco use, youth new smokers and quality of life.

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