

UNIT NO. 2

LIFESTYLE ADVICE AND MANAGEMENT

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ABSTRACT

Smoking cessation is a most cost-effective medical intervention and helping our patients stop smoking is a highly worthwhile endeavor. A doctor providing smoking cessation counseling will do well to first realise why many smokers are unwilling (or unable) to quit. This article focuses on why a doctor should emphasise smoking cessation in the prevention and management of chronic obstructive pulmonary disease.

Keywords:

Chronic obstructive pulmonary disease; Lung cancer; public health burden; FEV1; shortness of breath

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INTRODUCTION

The most prevalent form of tobacco addiction is cigarette smoking and intuitively, the lungs would have to put up with the brunt of harmful effects of the cigarette smoke that is inhaled.

Among the many lung diseases in smokers, 2 major respiratory diseases are most significant, because these illnesses are almost always caused by or associated with smoking, and these diseases have major impact on the sufferer in terms of quality of life and longevity.

The 2 common and serious lung diseases in smokers are: (1) Chronic Obstructive Pulmonary Disease, and (2) Lung Cancer. While Lung Cancer is garnering a certain amount of and public awareness and media attention, chances are, our patients do not know much about the other smoking-related "lung problem" - Chronic Obstructive Pulmonary Disease (COPD).

This is an inadequate notion - as from a general perspective, more smokers suffer from COPD than lung cancer and COPD is a deadlier disease than lung cancer (i.e. causing more deaths annually).

CHRONIC OBSTRUCTIVE PULMONARY DISEASE**A major public health burden**

COPD is a common disease afflicting millions of people worldwide and exacting a very heavy global disease burden. In America and many developed countries, COPD is the 4TH leading cause of death and, among the top 5 leading cause/s of death in these developed countries, COPD is the only one that is increasing in incidence - a disparity all the more striking amid the

dramatic decline in deaths from heart disease and stroke.

If the present trend continues, COPD is predicted to become the third leading cause of death worldwide by 2020. In 1990, a study by the World Bank and World Health Organisation (WHO) ranked COPD 12th as a burden of disease; by 2020, it is estimated that COPD will be ranked 5th.

Smoking – a major cause of COPD

Smoking is the major cause of this condition with 90% of deaths from COPD directly attributable to smoking. Air pollution, exposure to industrial smoke or dust and long term inhalation of smoke from wood fires in developing countries are other minor causes.

Smoking progressively and gradually destroys the lungs and causes a decline in lung function.

The capacity of the lungs to ventilate can be measured by undergoing a simple lung function test known as spirometry. One of the measurements during spirometry is the FEV1 (Forced Expiratory Volume in One Second), the volume of air exhaled in the first second after a deep inhalation. For COPD patients, FEV1 is used to determine the severity of obstruction in the air passages of the lungs.

In normal people who do not smoke, a loss of lung function (FEV1) is expected as one grows older. In smokers, the rate of decline of lung function (FEV1) is about double that of non-smokers. In smokers who have COPD, the rate of decline can be 4-6 times that of non-smokers, i.e., the patient has greater obstruction in the air passages and less lung function as the patient gets older.

The problem is that the loss of lung function in COPD patients is so gradual that most patients with COPD do not realise that they have the illness till it is severe. By the time most patients are diagnosed to have COPD, they may have lost at least 50% of their pulmonary function. This is exactly why the Chronic Obstructive Pulmonary Disease Association (Singapore) (www.copdas.com) in cooperation with other international agencies such as the Global Initiative for Chronic Obstructive Lung Disease (www.goldcopd.com) strongly encourages smokers, especially those with symptoms such as persistent cough and/or breathlessness to undergo spirometry testing.

Who is likely to have COPD?

The symptoms of COPD can range from **chronic cough** and **sputum** ('phlegm') production to severe disabling **shortness of breath**. In some individuals, chronic cough and sputum production are the first signs that they are at risk for developing the airflow obstruction and shortness of breath characteristic of COPD. In others, shortness of breath may be the first indication of the disease. Individuals with COPD increasingly lose their

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ability to breathe.

Acute infections or certain weather conditions may temporarily worsen symptoms (exacerbations), occasionally where hospitalisation may be required. Bear in mind that the progression of the disease and the loss of lung function can be so gradual that, presently, many patients don't realise they have COPD till late. Hence if the patient is a smoker or ex-smoker who is **(A) Above 40 years old**, with **(B) Breathlessness** and/or **(C) Chronic cough**, he or she should undergo spirometry testing to ascertain the diagnosis of COPD and grade its severity.

Double-barrel smoking gun

Smokers with COPD are at least 2 times more likely to develop lung cancer than smokers who do not have COPD. Thus, COPD is an independent risk factor for smokers developing lung cancer! So the 'take-home' message for our patients should be - do not smoke and if you are a smoker, do quit for it may not be just a gun you are holding pointed towards yourself but a double-barrel one at that.

Smoking cessation in COPD management

Just as smoking cessation is the single most effective and cost-effective way to reduce the risk of developing COPD, it is also the single most effective modality to stop its progression. While lifelong smokers have a 50% probability of developing COPD during their lifetime, there is recent evidence that the risk of developing COPD falls by about half with smoking cessation. Brief tobacco dependence treatment is effective and every tobacco user should be offered at least this treatment at every visit to a health care provider. Current evidence as a whole supports the conclusion that, even in severe chronic obstructive pulmonary disease, smoking cessation slows the accelerated rate of lung function decline and improves survival compared with continued smoking.¹

TOBACCO DEPENDENCE AS A CHRONIC DISEASE

Some people view smoking as a lifestyle choice or a 'habit'. As such, smokers and even some healthcare providers think that will-power is all that smokers need to quit smoking and that they do not need any help doing so. Unfortunately the scientific evidence does not support this point of view. Nicotine is one of the most potent central nervous system (CNS)-active drugs: milligram for milligram, it is 10 times more potent a euphoriant than heroin, cocaine, or d-amphetamine. Consequently, in many a smoker, it is not so much a case of "won't quit smoking" but more a case of "can't

quit smoking" without additional help.

CNS sensitivity and responsiveness to nicotine is genetically determined. Without the appropriate genetic make-up, a smoker cannot become nicotine dependent. About 10% of cigarette smokers lack the requisite genes and have no physiological nicotine dependence. These individuals do not experience any of the nicotine withdrawal symptoms shown. Rather, they can smoke cigarettes every now and then, or many on one occasion and then nothing for days or longer, and not even think about cigarettes. These individuals are truly social smokers and do have complete volitional control over when they will smoke tobacco. These people never seek assistance for smoking cessation because they have no difficulty stopping smoking. Unfortunately, about 90% of cigarette smokers are physiologically nicotine addicted. For this 90%, stopping smoking is not a matter of choice or free will. It is a medical and physiological problem that requires accurate diagnosis and appropriate medical treatment. They fall into a spectrum ranging from minimally nicotine addicted to severely nicotine addicted. As a general rule, the more severe an individual's nicotine addiction, the more severe will that person's nicotine withdrawal symptoms be. We as clinicians will do well to first realise the size of the burden when trying to get our patients to quit smoking. Realising this, we can empathise with smoker when he says that he or she is unable to quit smoking, while we maintain a strong insistence on smoking cessation for his or her health benefits. All the time, we must be ready and prepared to help smokers embark and maintain the oft difficult journey freeing themselves from a serious addiction. For the practical aspects of doing so, the reader is referred to a previously written article titled: "Smoking cessation – a practical paradigm for doctors".²

CONCLUSIONS

COPD is rapidly becoming a global public health crisis. The major risk factor for the development of COPD is cigarette smoking. Therefore smoking cessation is the most effective means of halting or slowing the progress of this disease.

REFERENCES

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LEARNING POINTS

- **Smoking cessation is a most cost-effective medical intervention.**
 - **Helping our patients stop smoking is a highly worthwhile endeavor.**
- Emphasise smoking cessation in the prevention and management of chronic obstructive pulmonary disease.**