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REVIEW

Smoking cessation treatment for COPD smokers: the role of counselling

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ABSTRACT: ***Smoking cessation treatment for COPD smokers: the role of counselling. C.A. Jiménez-Ruiz, K.O. Fagerström.***

Smoking cessation is the only therapeutic intervention that can prevent COPD smokers from the chronic progression of their disorder. The most important intervention for helping these smokers to quit is a combination of counseling plus pharmacological treatment. The characteristics of the counseling should be different depending if this intervention is offered to smokers with a previous diagnosis of COPD or if the intervention is offered to smokers who have been recently diagnoses with COPD.

The counseling of patients who have been recently diagnosed should include: a) explanation of the direct relationship between smoking and COPD, b) encouraging these patients to quit and c) using of spirometry and measurements of CO as a motivational tools.

The counseling of patients who have been previously diagnosed should include: a) encouragement to make a serious quit attempt, b) an intervention that increases motivation, self-efficacy and self-esteem, c) and the intervention should also control depression and be directed to weight gain control.

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Introduction

Tobacco smoking is an important contributor to different respiratory diseases and is the major etiological factor for the development of COPD. About 85-90% of cases of this disorder are due to tobacco consumption. Around 15-20% of smokers can develop COPD during their lifetime [1, 2].

The majority of smokers with COPD continue smoking in spite of knowing they are suffering from this disorder. Two population based studies have demonstrated that about 30-70% of smokers with COPD are still smokers [3, 4]. Some studies have found that smokers with COPD have some specific smoking characteristics, see table 1 [3-9].

Smoking cessation is the first and most important intervention in COPD. Smoking cessation is the only therapeutic intervention that can prevent COPD smokers from the chronic progression of their disorder [10]. The main objective of this paper is to show what are the main therapeutic interventions for helping COPD smokers to quit.

Smoking cessation interventions for COPD smokers

The most important intervention for helping these smokers to quit is a combination of counseling plus pharmacological treatment.

The characteristics of the counseling should be different depending on whether the intervention is offered to smokers with a previous diagnosis of COPD or if the intervention is offered to smokers who have recently been diagnosed as having COPD.

Counseling for smokers who have recently been diagnosed as having COPD

The counseling of these patients should involve 3 important aspects:

1. An explanation of the direct relationship between smoking and COPD. Patients should be informed about the close relationship between their disorder and their tobacco consumption including components such as: a) smoking cessation is the only therapeutic measure that has proven to be effective to improve their disorder and their life expectancy, b) the use of different bronchodilators and inhalators are less effective if the patients continue smoking, c) smoking cessation will produce an important improvement of their disorder in the long run and facilitate a better response to bronchodilator therapy. In the immediate day and weeks after quitting, some respiratory symptoms, like cough and phlegm can worsen and the patient should be advised about it.

Some studies have analysed if using special words like “smokers lung” or using contingent reinforcement with lottery tickets for reduced breath carbon monoxide can impact the efficacy of counseling. A trend, but not a significant effect, of these more intensive interventions was found when compared with usual advice [11, 12].

Table 1. - Smoking characteristics of COPD smokers

1. They smoke a high number of cigarettes per day
2. They smoke with a specific inhalation pattern including: they inhale more deeply and retain the smoke in the lungs longer
3. They have high levels of Carbon Monoxide (CO) in their expired-air
4. They are highly dependent on cigarettes
5. They are less motivated to quit than "healthy" smokers
6. They have low levels of self-esteem and self-efficacy
7. They are suffering from depression more frequently than "healthy" smokers

2. Spirometry can be used as a motivational issue to stop. Nevertheless, there is a lack of convincing evidence that spirometry has an added positive effect on smoking cessation. In order to improve the motivation to quit in patients using spirometry measures it has been recommended to confront the smoker with the airflow limitation during the counseling sessions. A recent study has found that successful treatment of tobacco dependence in respiratory patients requires repeated intensive interventions. The results of this study also shows that respiratory nurses are able to deliver this repeated and intensive treatment and that this intervention is more successful among COPD smokers than "usual care" interventions [13, 14]. Physicians should take into consideration that some smokers at risk of having COPD can have a normal spirometry and they should know how to deal with this situation.

3. All COPD smokers must be encouraged to make a serious attempt to quit.

A) In those smokers who are prepared to make a serious attempt to quit, the counseling must be directed to: a) choosing a quit date, b) identification of high risk situations, c) developing of strategies for copying with high risk situations, d) explanation of the different symptoms of withdrawal syndrome and their evolution and e) setting up follow up visits [15].

Smokers should be recommended to choose a date on which to give up completely (quit date). At the quitting day they should be ready to quit completely and abruptly; the only commitment of the day must be giving up, and risk situations should be avoided, or, at least, a detailed plan should have been designed in order to manage them. Smokers should be recommended to clear all cigarettes, lighters and ashtrays out of the house, office, car and other places. Some smokers are keen on advising all of their friends that they are going to make a serious quit attempt in order to gain their support. Doctors should reinforce the importance of complete abstinence and try to increase the smoker's motivation to stop. Physicians should encourage smokers to change their normal habits and put into practice all of the skills that they have learnt.

Physicians should explain the characteristics of withdrawal syndrome to smokers. Smokers should be aware that the majority of the smokers experience a range of different symptoms. These symptoms last 2-6 weeks and decreases in severity and frequency the longer they go without a single puff. Smokers should be aware that pharmacological treatments alleviate these symptoms and know how these treatments work. Probably, one of the most frequent and severe symptoms of withdrawal syndrome is the urge to smoke. Smokers should be provided with adequate information to teach them how to cope with these urges to smoke. Physicians should explain to their patients that after quitting an increase in cough and phlegm can appear. Table 2 shows some practical information [15].

It is crucial to set up follow up visits with the main objective to focus on the progress and discussion of smoking cessation. Patients must understand that giving up smoking is the most relevant therapeutic activity for them. Doctors must consider that the number of visits can influence the success rate: the greater the number of visits the higher the success rate. It is recommended that smokers attend the office weekly during the first month and then the number of visits be progressively diminished. The following program can be recommended following the quite date: 1st, 2nd, 3rd, 4th, 6th, 8th, 10th, and 12th week, and 4th, 6th, and 12th month [15].

Patients must feel that the team of health professionals who are caring for them are very interested in their quitting. The use of telephone calls, personalized letters, e-mails messages and SMS messages can be recommended [15].

B) In those smokers who are not interested in quitting, physicians must provide them with advice to quit at every follow up visit. One meta-analyses has concluded that the evidence does not support the restriction of quitting advice and encouragement only to those smokers perceived to be in the preparation and action stages [16]. The interventions in these patients should comply with the characteristics of Motivational Interviewing (MI) [17]. Motivational Interviewing (MI) is a non-directive, patient-centered counseling intervention. There is evidence that MI is effective in increasing future quit attempts; however, it is unclear if MI is successful in boosting abstinence among individuals motivated to quit smoking. The four general principles that underlie MI are: 1) express empathy, 2) develop discrepancy, 3) roll with resistance, and 4) support self-efficacy [16].

Another intervention that can be used with these patients is smoking reduction as a gateway to smoking cessation. Several studies have proved that smoking reduction can increase motivation to quit among those smokers who are not interested in quitting abruptly [18]. The use of nicotine replacement therapy can be beneficial to help these

Table 2. - Practical information for coping with urges to smoke

Evolution of urges:
In the first few weeks, urges are frequent and strong; if patients do not smoke after the quit date, urges to smoke get progressively less strong and less frequent
Triggers of urges:
Other people smoking or the smell of tobacco smoke
Taking alcohol, coffee or other stimulants
Anxiety/stress/arguments
Boredom
Favourite smoking places
After meals
New social situations
Behavioral strategies for dealing with urges:
Short bursts of moderate-intensity exercise can reduce urges
Keeping busy and doing something active
Avoiding triggers during the first weeks of abstinence
Pharmacological strategies for dealing with urges:
Use of rapid-delivery NRT system, such as chewing gum or nasal spray
Regular use of NRT, varenicline or bupropion can help to prevent urges
Taking glucose when urges arise

smokers to reduce the number of cigarettes daily and in a second step these patients can quit definitely. A recent systematic review of randomized, controlled trials that tested smoking-reduction interventions (pharmacological, behavioral, or both combined) among smokers who were not ready to make a quit attempt was conducted to assess the efficacy of these strategies in promoting future smoking abstinence. Ten trials were included; six tested pharmacologic interventions, one evaluated a behavioral intervention, and three evaluated combined interventions. The results shown that pharmacologic and combined smoking reduction interventions significantly increased long-term abstinence from smoking: OR 2.33, 95% CI 1.43 to 3.79 for pharmacological interventions and OR 2.14, 95% CI: 1.28 to 3.60 for combined interventions. Insufficient evidence was available on the efficacy of behavioral smoking-reduction interventions (OR 1.49, 95% CI 0.56 to 3.93) [18].

Counseling for smokers who are suffering from COPD previously diagnosed

The components of the counseling that is given to these patients are the same as those who are offered to the patients who have been recently diagnosed. In addition, physicians must take into consideration that these smokers have been advised by their health professionals on smoking cessation many times before. They can be bored and unresponsive in listening to the same advice again given over years. Taking this consideration into account it is important that physicians change their message. The message can be changed in both the way it is presented and in its content. Doctors should know that low motivation, low self-efficacy and low self-esteem are three important psychological components of these patients. So the counseling should be aimed at increasing their motivation, self-efficacy and self-esteem.

Depression is a frequent co-morbidity in these patients. Anxiety, depressed mood and even depression have been associated with COPD. Anxiety disorders, especially generalized anxiety disorder and panic disorder, occur at a higher rate in patients with COPD compared with the general population. Ng *et al*. in a prospective cohort study including 376 patients with COPD hospitalized for acute exacerbation analysed the independent associations of baseline depression (designated as a Hospital Anxiety and Depression Scale score of > or = 8) with mortality, hospital readmission, length of stay, persistent smoking, and quality of life (determined by responses to the St George Respiratory Questionnaire). They found that the prevalence of depression at admission was 44.4%. Multivariate analyses showed that depression was significantly associated with mortality, longer hospital stay and persistent smoking at 6 months (OR, 2.30; 95% CI, 1.17-4.52) [8]. They concluded that comorbid depression in COPD could facilitate smoking. Moreover, Wagena *et al*. carried out a prospective population based cohort study and found that 10% of the non-smoking COPD patients were depressed while this figure increased to 29% in COPD smokers [9]. Some papers conclude that depression is a result of COPD while others see common genetic background to both COPD and depression. Depression has a negative impact not only on quality of life but also on smoking cessation [5]. It should be taken into consideration that smoking can be used by COPD smokers as a self medication that can help them to control their anxiety and depression [5].

Sometimes the measurement of CO levels in expired air can detect that these patients are smoking

Table 3. - False positive of measurement of CO in expired air

1. The device is not adequately calibrated
2. Lactose intolerant
3. Long period of working with paint stripper
4. Faulty car exhaust
5. Faulty gas boiler

although they are not. The best way to manage this situation is to explain to the patient the different circunstances that can account for false positive cases and encourage patients to avoid them. In this way the next measurement of CO levels can produce valid figures. Table 3 shows the reasons for false positives in the measurement of CO levels [19, 20]. Many of these patients are frustrated about the idea of undertaking a new attempt to stop. They have made several attempts in the past and they always failed. It is important that physicians make this attempt different to the others. Physicians can e.g. ask about a) what types of treatments have been used in the past and b) inform about new treatments for smoking cessation. It should also be conveyed to the patient that the whole team of health professionals is behind and will support the patient in order to help in the new attempt.

Worries about weight gain should also be addressed. Many COPD patients suffer from a worsening of their symptoms if they gain weight. Gaining weight is frequently associated with smoking cessation. COPD smokers can gain around 4-6 Kg as a result of quitting and that can worsen the symptoms which can trigger relapse. Nevertheless, some COPD patients can be underweight, and a low weight is a negative predictor of survival. In order to put weight gain in perspective COPD smokers should be advised that stopping smoking is the best they can do despite gaining some kilos. A recent meta-analyses has studied the use of different treatments for controlling weight gain during smoking cessation. The main conclusions from this study are: a) although some pharmacotherapies (dexfenfluramine, phenilpropanolamine and naltrexone) produced short term effects, other problems with them and the lack of data on long-term efficacy limits their use, b) weight management education only, is not effective and may reduce abstinence, c) personalized weight management support may be effective and may not reduce abstinence, but data is limited, d) one study showed a very low calorie diet increased abstinence but did not prevent weight gain in the longer term, e) counseling to accept weight gain did not promote abstinence in the long term, f) exercise interventions significantly reduced weight in the long term, but not the short term. Bupropion, fluoxetine, Nicotine Replacement Therapy (NRT) and varenicline reduce weight gain while using the medication. Although this effect was not maintained one year after stopping smoking, the evidence is insufficient to exclude a modest long-term effect. The authors of this interesting study ended up concluding that the data are not sufficient to make strong clinical recommendations to prevent weight gain after cessation [21].

In brief, the interventions for smokers previously diagnosed with COPD should include the following aspects: a) new attempts should be different from previous, b) the intervention should increase motivation, self-efficacy and self-esteem, c) the intervention should control depression and be directed to weight gain control.

Pharmacological treatment for smokers with COPD

Smoking cessation treatment for COPD smokers is comprised of the combination of counseling plus pharmacological treatment. Pharmacological treatment is a crucial part of smoking cessation in COPD smokers. The specific smoking characteristics of these patients (see table 1) make them a hard-core group of smokers. Pharmacological support in order to alleviate the withdrawal syndrome is important in these patients.

References

1. Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2011. Consultada en: http://www.goldcopd.org/. Accessed January 2012.
2. Sørheim I, Johannesse A, Gulsvik A, Bakke PS, Silverman EK, DeMeo DL. Gender differences in COPD: are women more susceptible to smoking effects than men? *Thorax* 2010; 65: 480-5.
3. Jiménez-Ruiz CA, Masa J, Miravitlles M, *et al*. Smoking characteristics: differences in attitudes and dependence between healthy smokers and smokers with COPD. *Chest* 2001; 119: 1365-70.
4. Shahab L, Jarvis MJ, Britton J, West R, Prevalence, diagnosis and relation to tobacco dependence of chronic obstructive pulmonary disease in a nationally representative population sample. *Thorax* 2006; 61: 1043-7.
5. Wilson I. Depression in the patient with COPD. *Int J Chron Obstruc Pulmon Dis* 2006; 1: 61-4.
6. Clark KD, Wardrobe-Wong N, Eliot JJ, Priece T, Lindends T, Larstrom B. Cigarette smoke inhalation and lung damage in smokers volunteers. *Eur Respir J* 1998; 12: 395-399.
7. Hilberink SR, Jacobs JE, Schlösser M, Grol RP, de Vries H. Characteristics of patients with COPD in three motivational stages related to smoking cessation. *Patient Educ Couns* 2006; 61: 449-457.
8. Ng TP, Niti M, Tan WC, Cao Z, Ong KC, Eng P. Depressive symptoms and chronic obstructive pulmonary disease: effect on mortality, hospital readmission, symptom burden, functional status, and quality of life. *Arch Intern Med* 2007; 167: 60-67.
9. Wagena EJ, Kant IJ, Huibers MJH, *et al*. Psychological distress and depressed mood in employees with asthma, chronic bronchitis or emphysema: a population-based observational study on prevalence and the relationship with smoking cigarettes. *Eur J Epidemiol* 2004; 19: 147-153.
10. Anthonisen NR, Connett JE, Kiley JP, *et al*. Effects of smoking intervention and the use of an inhaled anticholinergic bronchodilator on the rate of decline of FEV_1: The Lung Health Study. *JAMA* 1994; 272: 1497-1505.
11. Brandt CJ, Ellegaard H, Joensen MB, Kallan FV, Sorknaes AD, Tougaard L. Effects of diagnosis of "smoker's lung". *Lancet* 1997; 349: 253.

12. Crowley TJ, Macdonald MJ, Walter MI. Behavioural anti-smoking trial in chronic obstructive pulmonary disease patients. *Psychopharmacol* 1995; 119: 193-204.
13. Kotz D, Wesseling G, Huibers MJ, van Schayck OC. Efficacy of confrontational counselling for smoking cessation in smokers with previously undiagnosed mild to moderate airflow limitation: study protocol of a randomized controlled trial. *BMC Public Health* 2007; 7: 332.
14. Kotz D, Wesseling G, Huibers MJ, van Schayck OC. Efficacy of confrontational counselling for smoking cessation in smokers with previously undiagnosed mild to moderate airflow limitation: study protocol of randomized controlled trial. *BMC Public Health* 2007; 7: 332.
15. Jimenez Ruiz CA. Psychological and behavioral interventions for smoking cessation. In Smoking Cessation. S. Nardini (ed). *Eur Respir Monogr* 2008; 42: 61-73.
16. Cahill K, Lancaster T, Green N. Stage-based interventions for smoking cessation. *Cochrane Database Syst Rev* 2010 Nov 10; (11).
17. Fiore MC, Jaen CR, Baker TB, *et al*. Treating Tobacco use and dependence: 2008 update. Clinical practice guideline, Rockville MD: US. Deparment of Health and Human Service. May 2008.
18. Asfar T, Ebbert JO, Klesges RC, Relyea GE. Do smoking reduction interventions promote cessation in smokers not ready to quit? *Addict Behav* 2011; 36: 764-8. Epub 2011 Feb 12.
19. Arrol B, Khin N, Kerse N. Screening for depression in primary care with two verbally asked questions: cross-sectional study. *BMJ* 2003; 327: 1144-1146.
20. Fagerström KO. Assessment of the patient. En: Smoking Cessation. Eur Respir Mon, Nardini S (ed). *Eur Respir Monogr* 2008; 42: 44-50.
21. Farley AC, Hajek P, Lycett D, Aveyard P. Interventions for preventing weight gain after smoking cessation. *Cochrane Database Syst Rev* 2012 18; 1: CD006219.

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