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Review Article

SMOKING CESSATION COUNSELING IN FAMILY MEDICINE

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Abstract:

Introduction: Smoking of cigarettes is known to be significantly associated with many short- and long-term morbidities and mortality in the US and around the world. To assist the cessation of cigarettes smoking, clinicians can benefit from the 5 A's method that consists of: Ask, Advise, Assess, Assist, and Arrange. Generally, it is acceptable that any patient with any presentation must be asked about smoking history, and if is a smoker, assessed for the ability to quit at each encounter with the clinician. The advice for smoking cessation should always be given to patients though strong motivation during interviews, especially when dealing with patients who are still not accepting cessation

Aim of work: In this review, we will discuss smoking cessation counseling and methods in different subpopulations, and we will mention most recent advances in this topic.

Methodology: We did a systematic search about smoking cessation counseling in family medicine practice using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). Our search also looked for the adverse effects of medications. All relevant studies were retrieved and discussed. We only included full articles.

Conclusions: Intervention for smoking cessation has become an urgent need because of increasing tobacco use and health hazards, especially in developing countries. Smoking cessation will be at different states of readiness. The states may be: (i) not ready (pre-contemplation), (ii) unsure (contemplation), (iii) ready (preparation), (iv) action, and (v) maintenance. Counselling and behavioural management is important. The '5 A's'-based intervention in the form of Ask, Advise, Assess, Assist and Arrange is implemented. Pharmacologic management is based on first-line treatment in the form of nicotine replacement therapy, bupropion and varenicline and second-line treatment as clonidine and nortriptyline.

Key words: Smoking cessation, behavioral techniques, pharmacological, family medicine.

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INTRODUCTION:

Smoking of cigarettes is known to be significantly associated with many short- and long-term morbidities and mortality in the US and around the world. To assist the cessation of cigarettes smoking, clinicians can benefit from the 5 As method that consists of: Ask, Advise, Assess, Assist, and Arrange. Generally, it is acceptable that any patient with any presentation must be asked about smoking history, and if is a smoker, assessed for the ability to quite at each encounter with the clinician. The advice for smoking cessation should always be given to patients though strong motivation during interviews, especially when dealing with patients who are still not accepting cessation [1].

When dealing with patients who are still not convinced with the importance of smoking cessation, the physician must always focus on the rewards and gains associated with cessation, and the risks and potential serious outcomes associated with smoking. The clinician must use every encounter with the patient as an opportunity to repeat this advice. Additionally, for selected patients, pharmacological agents could be prescribed to aid them stop smoking. These pharmacological agents include nicotine replacements, varenicline, and bupropion. In fact, the effects of these agents can sometimes lead to double the rates of cessation success. Moreover, the simultaneous use of several types of nicotine replacements or combining replacements with bupropion can further increase the rates of success [2].

Despite all this, some subpopulations of smokers are still considered difficult to treat and have lower rates of cessation success even with the application of these techniques. These include pregnant females, as they cannot use nicotine replacements due to their teratogenic effects on the fetus. In addition, despite being generally safe in cardiovascular patients, patients who suffer from unstable angina, or who have recently had a coronary event, cannot use nicotine replacement or varenicline as these are associated with higher risk of recurrence of cardiovascular events. When dealing with adolescents, nicotine replacements are generally considered safe, but they are not associated with efficacy as high as adults.

In this review, we will discuss smoking cessation counseling and methods in different subpopulations, and we will mention most recent advances in this topic.

METHODOLOGY:

We did a systematic search about smoking cessation counseling in family medicine practice using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). Our search also looked for the adverse effects of medications. All relevant studies were retrieved and discussed. We only included full articles.

The terms used in the search were: Smoking, counseling, smoking cessation, family medicine, and management.

Five A's Counseling Strategy

The application of both individual and group psychotherapies is beneficial in aiding smokers to stop. However, most individuals who smoke do not have the interest to participate in this psychotherapy [3]. Therefore, the 5 As framework has been developed to motivate smokers to stop smoking, and it include: Ask, Advice, Assess, Assist, and Arrange. The main advantage of this framework is the ability to be integrates into general clinical practice and encounters with smokers without the need of specific meetings [4].

ASK

Generally, it is recommended that all patients must be asked about smoking status as a point of their medical history. To make sure all physicians ask about this, many suggest the addition of smoking status to the history chart. When a patient is a current smoker, the physician must address this point by talking about harms and complications associated with smoking, and by advising the patient to stop smoking.⁵ additionally, the status of smoking must be updated in each visit, with revisiting smoking-related advice each time. Most studies have found that this step can significantly help smokers get motivation to stop smoking and will additionally increase their satisfaction with the clinician. [6].

ADVICE

Providing advice at each visit has been found in many studies to increase rates of smoking cessation

success when compared to smokers who do not receive regular advice.⁷ The physician must always show support for smokers and remind them of benefits associated with smoking cessation, and harms associated with smoking continuation. Any advice must be strong, clear, comprehensible, and expresses smoking cessation directly, with emphasizing on smoking harms. Personalizing the advice by correlating it with the patient's current health status and relevance to smoking has also been found to be beneficial.⁴ Following each meeting, there must be a follow up meeting where the physician will have the chance to re-discuss smoking cessation with the patient. This can further increase rates of cessation [3].

ASSESS

During each encounter with the smoker patient, the physician must assess the motivation to stop smoking, and always attempt to motivate patients who are not motivated using psychological techniques [8] generally, the assessment will categorize any individual smoker into the following categories: precontemplation, contemplation, preparation, action, and maintenance.²³ The use of this categorization will help the physician estimate the degree of motivation present in the individual, and thus decide the best next step in management.

Generally, the use of confrontation is not helpful in patients who are still in the precontemplation phase. These patients will mostly benefit from motivational techniques that will target the patient's health goals and focus on their personal gains.²² During the application of motivational techniques, the clinician should be taking a central part of counseling the patient to make sure to achieve higher efficacy than other standard methods in encouraging cessation of smoking.²⁵ The parts of discussion that consists a complete successful motivational approach to encourage smoking cessation are summarized in the 5 Rs rule which includes: Risks, Relevance, Rewards, Roadblocks, and Repeat [9]

The presence of willingness to quit in the patients should be thoroughly evaluated in the patients along with barrier that could be an obstacle and prior history of smoking cessation attempts. It is also essential to assess the current degree to which the patient is dependent on nicotine.

ASSIST (OR REFER)

The next step after the patient is motivated to stop smoking is to set a plan for this. This can be achieved by encouraging the patient to determine a specific

day on which they will stop smoking. physicians must also discuss with the patient any possible causes that may become an obstacle during the plan.

It is also important for physicians to discuss with their patients the possible development of depressed mood, increased weight, and other withdrawal signs and symptoms of nicotine, and keep them reassured that they will be supported throughout this whole process.⁴ In addition to support, physicians must always offer additional resources related to smoking cessations as this will aid patients in anticipating challenges. It is important for the surrounding environment of the patient to be also ready and fully prepared to help the patient adapt to the changes that will be associated with withdrawal.

Generally, when a patient withdraws from nicotine use, the first signs to appear include restlessness, irritability, and anxiety. These signs will start and peak during the first few days of smoking cessation and will stop by the end of the first month. The use of nicotine replacements can be of great help in this phase as they will significantly decrease the severity of these signs by gradually reducing the dependence of nicotine. In addition, coffee and other caffeine-containing beverages can worsen the symptoms and signs of nicotine withdrawal. Therefore, the intake these beverages are not recommended in patients who are attempting to stop smoking, especially during the first phases.

Depressive mood can also develop initially in smokers when they attempt to stop smoking. smokers who have a prior history of depressive attacks have higher risk of developing depressive moods than those who do not.¹⁰ Therefore, clinicians should always screen for the presence of depressive symptoms in patients who attempt to stop smoking especially during the first period. Smokers who have previous failed smoking cessation attempts are generally more vulnerable to develop depressive symptoms, and thus can sometimes use bupropion to aid these patients in their attempts to stop smoking and decrease the rates of developing depressive symptoms [11].

Almost all smokers who stop smoking will gain some weight initially. This gain may not be that high, and will usually not exceed 10 lb. however, it can vary among patients and can be disturbing for the patient.

Despite being a less concern than other withdrawal symptoms, it can be bothering for patients and lead to higher rates of failure. To decrease the amount of gained weight, bupropion and nicotine replacement can be used, and have been shown to be beneficial [4]. In addition, it is crucial to keep monitoring the intake of food, and keep it balanced with exercise and physical activity.

ARRANGE FOR FOLLOW-UP

After the patient is set on a plan to stop smoking, they should be kept followed to make sure they are still quitting and to congratulate them for their success. Generally, the patient must be contacted for at least four separate times. This has been shown to significantly improve rates of cessation success [4].

When dealing with patients who later relapsed or could not follow the plan, re-assessment is essential along with considering new plans that might include the addition of pharmacological agents or behavioral therapies. Most importantly, these individuals must be motivated to set a new plan and attempt smoking cessation again [12].

When following a patient who recently quit smoking, physicians should keep stressing on the benefits and positive consequences of smoking cessation. This can significantly decrease the rates of relapse and failure of cessation. In addition, the doses of pharmacological agents that aid cessation must be continuously monitored and adjusted according to the general status. Physicians should keep in mind that these agents may interact with the patient's drugs like insulin, and betablockers, which, therefore, should also be adjusted to prevent the development of adverse events.

Medications

The mechanism behind pharmacological agents that are used in the cessation of smoking is mainly providing nicotine substitutes to prevent the development of withdrawal symptoms. The exact mechanism of bupropion is still not well understood, but it is likely to be due to its inhibitory effects on the nicotine receptors.

NICOTINE REPLACEMENT THERAPIES

Nicotine replacement aims mainly at providing a relief of nicotine withdrawal symptoms and decreasing nicotine cravings. Nicotine replacement can be administrated using patches on the skin that

can slowly release nicotine to compensate for smoking cessation. Other forms of replacement therapies including the nasal spray, the lozenges, and the gum, which have a more rapid onset of action than patches, but are still slower than cigarettes themselves. In a systematic review published by Cochrane and included more than 130 trials, authors were able to conclude that the use of any form of nicotine replacement was associated with up to 70% increase in the rates of smoking cessation success.¹³ The dose of nicotine replacement depends mainly on the smoking status of the patient and should generally be higher in heavy smokers.

NICOTINIC RECEPTOR AGONIST

Varenicline (also known as Chantix) works by selectively and partially agonizing the alpha4-beta2 nicotinic receptors leading to decreased nicotine craving and nicotine withdrawal [14]. The use of Chantix has been known to be associated with significantly higher chances of success in smoking cessation attempts when compared to patients who do not receive any pharmacological interventions [15]. Moreover, Chantix has been found to achieve better outcomes when compared to bupropion [16]. However, some studies have suggested that the use of Chantix can be associated with higher risk of developing coronary artery events and anginal attacks [17].

BUPROPION

Bupropion was first introduced in the use of depression. However, it later showed good efficacy in aiding smoking cessation. In a previous systematic review that was published in Cochrane in included about 19 trials, bupropion was associated with double success rates of smoking cessation when compared to placebo [12]. When used in combination with nicotine replacements, efficacy can be further increased especially in patients who have a prior history of depressive symptoms. However, no enough data is present on its efficacy for the use in adolescents. Moreover, its use is contraindicated in any patients who has an eating disorder, seizures disorder, or any electrolyte abnormality, and is known to cause interactions when used with monoamine oxidase inhibitors.

SECOND-LINE THERAPIES

The use of Catapres (also known as clonidine) and Pamelor (Also known as nortriptyline) has also been shown to be effective in achieving higher success

rates of smoking cessation.⁴ However, they are not considered first-line agents, and are generally used when other modalities are unavailable, ineffective, or contraindicated.

Implementation of multimodal approach and influential strategies

The use of combined therapy in the management of smokers who attempt cessation has been found to be associated with significantly improved outcomes. however, it is still not widely used in everyday clinical practice. In a previous report that was published in the year 2007, authors stated that an increasing number of patients is receiving advice and awareness on smoking cessation [18]. However, only one third of patients received enough awareness on pharmacological agents that can be used to improve smoking cessation success.

In another study conducted by the National Ambulatory Medical Care Survey in the USA, a significantly low rate of smokers who received cessation pharmacotherapy was documented. In addition, the study found that more than 80% of the smokers did not even receive counseling for smoking cessation and less than 2% actually received pharmacological therapy. This study also found that patients who had cardiovascular or pulmonary diseases received more counseling for smoking cessation than normal health individuals.

Special Populations

PREGNANT WOMEN

Cigarettes tobacco is known to be significant carcinogens that can half significant harms on the developing fetus. Studies have found that female who stop smoking early in pregnancy will significantly reduce the risk of developing adverse events in the fetus, which include premature delivery, decreased birth weight, and mortality.

Unfortunately, not all therapies can be used in pregnant women to help them stop smoking. for example, the use of nicotine replacement has been associated with the development of severe birth anomalies [19].

The use of other pharmacological interventions has not been well studied in pregnant females for safety on the fetus and efficacy in smoking cessation. Therefore, their use is still not recommended until enough data is present on them.⁴

PERSONS WITH CORONARY HEART DISEASE

Cessation of smoking can significantly decrease the risk of developing coronary artery events. When dealing with patients with cardiovascular diseases, bupropion has been found to have significant efficacy in cessation of smoking [20]. However, bupropion can also be cardiotoxic, especially in higher doses, and therefore, should be used with caution [21].

varenicline has also been found to be beneficial in patients with cardiovascular diseases who want to stop smoking. however, it is also associated with a significant increase in cardiovascular events, thus is not recommended to be used in these patients. Moreover, there has been rare reports of developing peripheral vascular disease in patients who have been receiving varenicline [17].

ADOLESCENTS

Ninety percent of adult smokers began smoking as adolescents or preadolescents.²² The U.S. Preventive Services Task Force found insufficient evidence to recommend tobacco screening or interventions in adolescents however, physicians may intervene with adolescent smokers using motivation-enhancing strategies such as the five A's and the five R's.⁴ Although considered safe for adolescents [23]. NRTs may require more intensive instruction and lead to lower tobacco abstinence rates than in adults

CONCLUSIONS:

Intervention for smoking cessation has become an urgent need because of increasing tobacco use and health hazards, especially in developing countries. Smoking cessation will be at different states of readiness. The states may be: (i) not ready (pre-contemplation), (ii) unsure (contemplation), (iii) ready (preparation), (iv) action, and (v) maintenance. Counselling and behavioural management is important. The '5 A's-based intervention in the form of Ask, Advise, Assess, Assist and Arrange is implemented. Pharmacologic management is based on first-line treatment in the form of nicotine replacement therapy, bupropion and varenicline and second-line treatment as clonidine and nortriptylin. Every health professional has obligation to help their patients to quit and the intervention should be diagnostic and therapeutic. The best results are obtained by behavioural and social support combined with pharmacotherapy whenever needed. The paper highlights the important component of intervention in smoking cessation.

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