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Review Article

SMOKING CESSATION COUNSELING IN FAMILY PRACTICE

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Abstract:

Introduction: Though smoking in the US has declined by more than 50% since 1965, it continues to be the main cause of death. It is estimated that more than 480 000 premature deaths per year are related to smoking, it also account for more than \$289 billion in health care burden. The recent numbers from the Centers for Disease Control and Prevention (CDC) show that more than fifteen percent of adults and approximately ten percent of high school students smoke cigarettes. But, when all tobacco products are included, the prevalence is higher than twenty percent and twenty five percent, respectively. The recent most commonly used tobacco products by high school students were electronic cigarettes, and hookah (9.4%), showing the increasingly challenging landscape for doctors. Additionally, most doctors report insufficient experience in tobacco management and many smokers do not get enough help to quit.

Aim of work: In this review, we will discuss smoking cessation counseling.

Methodology: We did a systematic search for smoking cessation counseling using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). All relevant studies were retrieved and discussed. We only included full articles.

Conclusions: Though smoking in the US has declined by more than 50% since 1965, it continues to be the main cause of death. It is estimated that more than 480 000 premature deaths per year are related to smoking, it also account for more than \$289 billion in health care burden. The recent most commonly used tobacco products by high school students were electronic cigarettes, and hookah (9.4%), showing the increasingly challenging landscape for doctors. In this review, we discussed smoking cessation counseling.

Key words: smoking cessation, counseling, management, new advances, primary care.

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INTRODUCTION:

Though smoking in the US has declined by more than 50% since 1965, it continues to be the main cause of death. It is estimated that more than 480 000 premature deaths per year are related to smoking, it also account for more than \$289 billion in health care burden [1]. The recent numbers from the Centers for Disease Control and Prevention (CDC) show that more than fifteen percent of adults and approximately ten percent of high school students smoke cigarettes. But, when all tobacco products are included, the prevalence is higher than twenty percent and twenty five percent, respectively. The recent most commonly used tobacco products by high school students were electronic cigarettes, and hookah (9.4%), showing the increasingly challenging landscape for doctors [2]. Additionally, most doctors report insufficient experience in tobacco management and many smokers do not get enough help to quit.

In this review, we will discuss the most recent evidence regarding smoking cessation in primary practice.

METHODOLOGY:

We did a systematic search for smoking cessation counseling using PubMed search engine (<http://www.ncbi.nlm.nih.gov/>) and Google Scholar search engine (<https://scholar.google.com>). All relevant studies were retrieved and discussed. We only included full articles.

The terms used in the search were: smoking cessation, counseling, management, new advances, primary care.

What health problems have definite links to tobacco use?

It is well established that smoking tobacco increases risk for many diseases, associated illnesses, and death. The all-cause mortality is five times higher in smokers than in nonsmokers, and recently data have shown that the relative risk for death is approximately similar for males and females who smoke. Smokers could also lose more than ten years of life expectancy in comparison with nonsmokers [3].

About 1/3 of all cancer related mortality in the US are believed to be due to smoking, resulting in more than 180000 deaths yearly. Tobacco smoking is linked with many different types of cancers such as the lungs, oropharynx and larynx, esophagus, stomach, pancreas, kidneys and ureters, cervix, and bladder and acute myeloid leukemia. The 2014 surgeon general's report showed that there is also enough evidence to associate smoking with colorectal

and hepatocellular carcinoma. More than fifteen million adults in the US have COPD, and females are more vulnerable than males both in prevalence and in COPD-related mortality. Moreover, it is estimated that more than 1/3 of patients with COPD remain to smoke. Smoking has also been linked to frequent asthma exacerbations and is a major cause of coronary artery disease (CAD), cerebrovascular disease, peripheral vascular disease, and aortic aneurysms. In middle-aged and older adults, more than two thirds of CAD related mortality were linked to smoking [4].

Female who smoke are more vulnerable to have less birthweight and premature infants and could have higher numbers of miscarriages. New studies showed that smoking is responsible for ectopic pregnancy and orofacial clefts. Females older than 35 years who smoke and use birth control pills have much higher risk for heart attack, stroke, and venous thromboembolism. In addition, Smokers are also at risk for erectile dysfunction, cataracts, periodontitis, gastroesophageal reflux, hip fractures, and fire linked injury and death.

Which health problems are associated with secondhand smoke exposure?

Passive smoking, also known as environmental tobacco smoke, affects about more than fifty million nonsmokers in the US alone, including more than 15 million young [5]. More than 7300 cancer related deaths and 34 000 deaths from CAD per year, a 20%– 30% increased risk for stroke, and increases of adult-onset asthma are attributable to passive smoke exposure. kids exposed to secondhand smoke are more prone to have asthma, respiratory infections, reduced lung function, and chronic otitis media.

What health benefits can smokers who quit anticipate?

Smoking cessation before age forty years could possibly decrease smoking linked mortality by more than ninety percent, with the highest benefits for people with underlying cancer, COPD, and heart disease and pregnant females as well as their infants and kids living with smokers. Smoking has been linked to adverse outcomes in cancer patients. Quitting smoking could potentially improve the prognosis, survival, symptoms, toxicities, and effectiveness of the management. Patients diagnosed with cancer who continue to smoke might decrease their risk for dying by thirty percent through smoking cessation at the time of diagnosis [6]. Smoking elevates the risk of cancer recurrence, second primary tumors, poor response to treatment, surgical complications, need for chemotherapy, and radiotherapy toxicities.

The advantages of smoking cessation start immediately and last for decades. After ten years of smoking cessation, the risk for lung cancer in former smokers was decreased up to fifty percent. Smoking cessation decreases the risk for death from CAD by two thirds within two years of smoking cessation, with risk reaching that of persons who have never smoked. Circulation improves within weeks of quitting, and stroke risk is decreased to the level of that of nonsmokers in 2–4 years [7].

Even lung function could improve within only three months. Quitting smoking during the first four months of pregnancy decreases the risk for low birthweight to that of non-smokers. Other advantages include decreased damaging effects on skin, breath, teeth and gums, smell, and taste. Finally, smokers and providers should be aware that tobacco use can affect metabolism of caffeine and commonly prescribed medications.

Is there an age after which smoking cessation no longer yields benefit?

Smoking cessation help people of all ages, irrespective of smoking history. Older smokers, in spite of smoking for years, might have increased motivation from health concerns and symptoms of tobacco linked illness.

Why is it difficult for smokers to quit?

Smoking cessation is a very challenging topic for many reasons. Nicotine is one of the most addictive substances, and cigarettes are highly effective nicotine delivery devices. Nicotine enters the brain within seconds and acts on the mesolimbic reward pathways, causing the secretion of large amounts of dopamine. This release lead to mood-elevating physiologic response, which becomes highly addictive. As with many addictions, tobacco dependence is linked with withdrawal symptoms, including depressed mood, anxiety, irritability, difficulty concentrating, increased appetite, restlessness, and insomnia. Symptoms typically start a few hours after the last tobacco use and peak during the first week, but they can remain for six weeks or longer. Psychological cravings for nicotine can last much longer. The severity of dependence can frequently be predicted by the number of cigarettes smoked and time to first cigarette of the day. Smoking cessation need behavior change. Smoking is a comforting habit to many smokers, and the act of reaching for, lighting, and smoking a cigarette becomes a routine part of life. A pack-per-day smoker lights a cigarette 73 000 times per year, and this behavior becomes associated with many cues and

triggers. Certain environments or social situations may also cause relapse in people who quit smoking. These all need to be addressed as part of a comprehensive treatment plan [8].

How should clinicians screen for tobacco use, and when should they provide cessation counseling?

Guidelines proposed the 5 As for tobacco smokers in clinical settings.

These represent to *ask* about tobacco use status, *advise* cessation, *assess* readiness to quit, *assist* tobacco users in quitting, and *arrange* follow-up visits. Recently, with the recognition that busy physicians could not have time for all of these steps and with higher tobacco treatment resources in communities, including widespread telephone quitlines, some are recommending A-A-R (*ask, advise, refer* to treatment resources) or A-A-C (*ask, advise, connect* patients directly to quitline via fax or electronic referral) [9]. Doctors must ask patients if they smoke, irrespective of age, sex, or medical history. As most adults become daily smokers before age 18 years, the chances for primary prevention are greater for physicians who care for children. But, all doctors should send an obvious message to patients that the best prevention is never to start. Comprehensive tobacco control policies, involving adequate taxation, age-of-sale policies, clean indoor-air laws, tobacco treatment resources, and youth prevention programs, are the best ways to decrease initiation and foster cessation.

What effects do electronic cigarettes (e-cigarettes) have on public health?

Since developing in 2007, e-cigarettes have been one of the most important products ever to reach the market. These cigarettes have a liquid-filled chamber, a battery, and a heating element to vaporize the liquid. They have been categorized as “tobacco products” by the U.S. Food and Drug Administration (FDA). E-cigarette vapor has different amounts of toxins, some of which are also present in tobacco smoke but at much lower levels. As e-cigarettes are not regulated by the FDA, there is no standardization in the manufacturing process and the real constituents of the vapor can differ hugely. There is no combustion of tobacco with e-cigarettes, so no smoke or carbon monoxide; but, because of the chemicals found in e-cigarette vapor, at this point e-cigarettes cannot be described safe. Possible health concerns regarding e-cigarettes include the following: What are the long-term health effects of e-cigarette use?

Complete tobacco control policies include regulation (FDA product regulation, labeling, advertising), policy (age of sale, smoke-free laws), taxation,

prevention (changing social norms, advertising restrictions), and treatment. Through utilization of all these methods, tobacco use and subsequent morbidity and mortality can be substantially and persistently reduced.

What is the role of health care professionals in tobacco treatment?

An extensive variation of health care providers, including doctors, can reduce the impact of tobacco use in our society. The treatment team also includes certified tobacco treatment specialists, who have got advanced training in evidence-based areas of treatment and can deliver interventions in both individual and group settings.

Studies investigating smoking cessation training programs concluded that these programs increase the likelihood that physicians would perform smoking cessation tasks.

Can smokers quit without any intervention?

Most smokers try to quit on their own with no assistance, and some do succeed. But the abstinence rate for unaided cessation is classically less than 5% [10]. Even simple advice from a doctor or basic clinical interventions can have an effect on quitting. The duration and frequency of contact and successful treatment outcomes have a strong dose–response relation. So, to achieve more meaningful abstinence rates, comprehensive tobacco dependence treatment.

What behavioral interventions are effective?

At every clinic visit, doctors should utilize the “5 As” as mentioned above. Behavioral interventions can range from shortly asking patients about smoking habits to multiple counseling sessions.

Self-Help Therapy

A meta-analysis of the effectiveness of self-help materials with no other treatment concluded no evidence of advantage of standard structured materials. Materials tailored to individual smokers are more effective than nontailored materials, although the absolute size of effect is still small. Standard self help materials provide no additional benefit when used with other interventions, like clinician advice or nicotine replacement therapy (NRT) [11].

Apps, Web, and Mobile Interventions

Some of the most recent self help techniques consist of apps, mobile, and Web-based programs. Though the recommendations of many of these tools are not based on evidence, they can reach a large number of tobacco users with little possible downside. So, they

could still have an effect, even if the individual benefit is small.

Motivational Interviewing

Motivational interviewing is a collaborative, goal-oriented style of communication with particular focus on a person's *own* reasons for change. These techniques can be useful in moving current tobacco users along a continuum of readiness to quit.

Individual Therapy

Individualized counseling by health care providers enhance cessation rates, and counseling intensity and quitting success has a strong dose–response relation.

Training in practical problem solving skills appears to be effective for smoking cessation. Such training included recognizing danger situations, developing coping skills, and providing basic information. Smokers could also benefit from social support provided in the context of cessation treatment.

Telephone Therapy

Individual telephone counseling is a trending famous technique to administer support and reinforcement. It can reach a large number of tobacco users and is not as limited by geographic barriers. Both proactive and reactive telephone counseling helps smokers interested in quitting. Telephone quit lines provide smokers with important access to support, and call-back counseling improves their practicality. There is a dose–response relation— 1 or 2 brief calls are less likely to provide a measurable benefit, whereas 3 or more calls has even better success.

Group Therapy

Group therapy adds mutual support from others having similar experiences and lets pooling of collective knowledge of previously effective behavioral methods. Group therapy is more effective than self-help and other less-intense interventions.

Other Nondrug Therapies

Other interventions marketed for smoking cessation, like acupuncture and hypnosis, are numerous; but, support for their use is not enough.

Which pharmacologic therapies are effective?

There are seven FDA-approved medications that have been shown to be safe and effective for treating tobacco dependence. 5 of them are NRTs (patch, gum, lozenge, oral inhaler, and nasal spray), and two of them are nonnicotine medications (bupropion and varenicline).

NRT

NRT mechanism of action is by alleviating cravings and withdrawal symptoms. Patients using NRT only get nicotine, classically at lower doses, and none of the accompanying 7000 other toxins found in smoke. This therapy is available over-the-counter in gum, patch, and lozenge forms and by prescription as an oral inhaler and nasal spray.

Bupropion

Bupropion, the 1st nonnicotine drug approved for smoking cessation, inhibits serotonin, norepinephrine, and dopamine. The dopamine effects play a key role, because this neurotransmitter impacts the nicotine reward pathway.

Varenicline

Varenicline is a nonnicotine drug designed specifically for smoking cessation [12]. The mechanism of action is nicotinic receptor as a partial agonist (causing dopamine release and craving reduction) and an antagonist (blunting the rewarding effects of a slip). Varenicline is typically started 1 week before quitting.

Combining Behavioral Counseling With Pharmacotherapy

Adding behavioral counseling to drugs as well as adding medications to existing behavioral counseling is superior to either therapy alone. A review of 38 studies with more than 15 000 participants showed a small but statistically significant benefit from more behavioral support.

Multiple Forms of NRT

Adding more than one form of NRT has additive benefits. This typically involves adding 1 or more short-acting or “active” NRT medications (gum, lozenge, inhaler, nasal spray) to a longacting or “passive” form (patch). Concerns of nicotine “overdose” are largely unsubstantiated, because the doses provided by NRT are typically lower than those absorbed through cigarette smoking. The brain of a smoker is accustomed to a certain level of nicotine, and these people are less likely to administer more of the short-acting NRT than needed to reduce cravings.

Combining Bupropion With NRT

The results of studies of combined bupropion and NRT have been mixed. Data from the Clinical Practice Guidelines showed advantages to these combinations; but, subsequent meta-analyses have not found similar results. One study concluded a benefit of a triple-medication combination over the patch alone.

Combining Varenicline With Other Medications

2 recent studies have assessed the advantages of combining varenicline with other pharmacotherapies—1 combining varenicline with bupropion and the other combining varenicline with the nicotine patch. Both studies did not show statistical benefit with these combinations, though the trend was in a positive direction.

Other Pharmacologic Therapies

Clonidine and nortriptyline were suggested second-line therapies for treating nicotine withdrawal symptoms; but, with more effective and safer substitutes

now available, they are seldom used. Nortriptyline and clonidine increased the chances of quitting, however this was offset by a dose-dependent increase in adverse events. Cytisine.

CONCLUSIONS:

Though smoking in the US has declined by more than 50% since 1965, it continues to be the main cause of death. It is estimated that more than 480 000 premature deaths per year are related to smoking, it also account for more than \$289 billion in health care burden. The recent most commonly used tobacco products by high school students were electronic cigarettes, and hookah (9.4%), showing the increasingly challenging landscape for doctors. In this review, we discussed smoking cessation counseling.

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