Smoking Cessation Facts
S Biradar, S Mamalaedesai, V Rasal

Citation

Abstract
Intervention will only be effective if there are systems in place to assess and follow-up patients who want to quit smoking. Smoking has been identified as one of the most significant causes of avoidable death and disease. Despite the increase in public knowledge, and the push for smoke exposure reduction, the prevalence of smoking continues to represent a threat to the health and well being of active and passive smokers alike. Programs that encourage smokers to quit have been described as effective tools in promoting health and reducing the burden of disease related to smoking. This brief review focuses on the forms of drug therapy that assist cessation, these treatments should be coordinated with the general and specific support and counselling strategies that are also of proven benefit.

INTRODUCTION
More intervention research is needed to evaluate the effectiveness of other cessation methods such as acupuncture and hypnotherapy. Tobacco dependence meets the criteria of a drug dependence disorder. In most tobacco users, tolerance develops as well as a characteristic withdrawal syndrome and an inability to control future use. Tobacco dependence warrants medical treatment in the same way as any other dependence disorder or other chronic disease.

Although many smokers succeed in quitting on their own, this is usually after several attempts. Over 90% of unaided quit attempts are not successful. Use of appropriate pharmacotherapies could double or triple cessation rates. In India the tobacco is used in the form of patch, gutkha and cigars etc.

WHAT'S BAD ABOUT SMOKING
The use of tobacco is associated with a myriad of problems. It is addicting and it fosters a physical and perhaps a psychological dependence. Milligram-for-milligram, nicotine (a major chemical in tobacco) is several times more addicting than heroin. It is associated with cancers of the lips, mouth, throat, larynx (voicebox), esophagus, lungs, stomach, pancreas, kidneys, bladder and uterine cervix. It damages lung and bronchial (airway) tissues directly as well as impairing their properties of self-cleansing and repair, thereby altering the dynamics and efficiency of breathing. It predisposes to atherosclerotic coronary and peripheral artery disease, angina (chest pains referable to the heart) and myocardial infarctions (heart attacks). It raises your blood pressure. It is a risk factor for osteoporosis (reduction in bone density). It can raise your susceptibility to developing peptic ulcers. If you are pregnant, it raises the risk of spontaneous abortion (miscarriage), preterm birth, low birth weight, and perinatal death. It is associated with premature aging (wrinkling) of the skin. It irritates your eyes and burns your throat and lungs. It confers an offensive odor to your hair, skin, breath, clothing and home furnishings. It stains your teeth and fingers. It can burn your skin, your clothing and your furniture. It is a fire hazard, especially when associated with drinking alcoholic beverages. It can reduce your tolerance for exercise and your overall general fitness. It is expensive. It is often offensive and potentially harmful to those around you; it can increase the incidence of asthma, pneumonia, and ear and upper respiratory infections in your nonsmoking spouse and children exposed to your smoke in the house. Some of these effects are immediate, and some are short-term, occurring in days to months. Still others are insidious in their onset and development, taking years of daily use, during which the damage is slow, yet continuous and inexorable. How the above can affect your trombone playing is obvious, especially as you develop reduced exercise tolerance and chronic obstructive lung diseases (measurable reduction in the efficiency of air exchange in the earlier stages, and chronic bronchitis and emphysema in the later stages of smoking).

NEUROBIOLOGY OF SMOKING
The great majority of regular smokers are dependent on cigarette smoking, and not simply addicted to nicotine. Smoking is highly contextual and associated with certain
rituals. These start with the opening of a packet, followed by
the lighting process and then the sight and smell of smoke. After
inhaling smoke from a modern cigarette, arterial nicotine
levels increase markedly within 15 seconds. This
bolus of nicotine activates the brain-reward system by
increasing dopamine release. This brain reward system is a
common pathway for pleasurable activities (sexual activity,
eating) and most drugs of addiction.

This peak in plasma nicotine level, and the transient
activation of the reward system, is followed by a gradual fall
in nicotine levels into a state of withdrawal that is, in turn,
relieved by the next cigarette. Dependence arises from the
temporal association of the rituals and sensory inputs with
the repeated stimulation and relief of withdrawal. This
required association explains why nicotine replacement
therapy (NRT) products, that deliver nicotine slowly and do
not produce high plasma nicotine levels, have minimal
addictive potential.

THE PHARMACIST’S ROLE IN THE NEW
SMOKING CESSATION SERVICES
Pharmacists have been shown to play an important role in
smoking cessation through their opportunistic contact
with people who are in good health as well those who are ill,
their ability to advise people about their smoking behaviour
and their expert knowledge of the role that medicines can
play in improving health and reducing illness.

Opportunistic advice Pharmacists should opportunistically
ask customers if they smoke (there are many appropriate
triggers such as customers purchasing cough medicines,
smokers’ toothpaste, pregnancy tests, folic acid, etc) and
where appropriate offer advice to smokers to stop.

Intermediate and specialist smoking cessation interventions
The recently published updated smoking cessation
 guidelines highlight the role of the pharmacist in delivering
intermediate and specialist smoking cessation interventions.
By combining data from two recent randomised trials in the
UK, the guidelines indicated a positive effect of a structured
package of behavioural support and NRT provided by
pharmacists, compared with unstructured care. Community
pharmacy personnel therefore have the potential to make a
significant contribution to national smoking cessation rates.

ADVICE TO QUIT SMOKING
Interventions using multiple providers from different
disciplines were markedly more effective than when no
provider was involved. This further indicates that healthcare
workers from a range of disciplines can effectively promote
smoking cessation.

TREATMENT FORMATS
SELF-HELP TREATMENT
Self-help strategies may include written materials, audio or
videotape, computer programs and telephone hotlines.
Materials can be tailored to particular populations such as
different ages or ethnic groups, or to individual smoker
characteristics.

NICOTINE REPLACEMENT THERAPY
Nicotine replacement therapy (NRT) is available in gum,
transdermal patches, intranasal spray, inhaler devices and
sublingual tablet. The total duration of treatment was
examined and the use of patches beyond eight weeks was no
more effective than stopping treatment at eight weeks. Gum
was found to be least effective in the hospital setting. The
results for patches were more consistent between settings
suggesting that patches may be more suitable in the hospital
setting.

Furthermore, support from healthcare workers was found to
increase the effectiveness of NRT in promoting smoking
cessation. Increasing the intensity of support improved the
effect of both nicotine patches and gum.

OTHER MEDICATIONS
A range of anxiolytic and anti-depressant medications has
been tested for effectiveness in smoking cessation. Of these,
only bupropion was found to be effective when compared
with placebo or NRT.

FOLLOW-UP ASSESSMENT AND
PROCEDURES
MOTIVATIONAL STRATEGIES
When planning and applying smoking cessation
interventions the role of personal motivation should be
considered. Motivational strategies for quitting include
concepts such as relevance, risks, rewards and repetition.

RELAPSE PREVENTION
Minimal strategies include congratulations, encouragement
and engaging the patient in discussion that focuses on the
positive aspects of smoking cessation. Problem solving with
regard to any adverse effects of cessation such as weight
gain and prolonged withdrawal symptoms should also be
undertaken.
SPECIFIC POPULATIONS AND GROUPS

HOSPITALISED PATIENTS

Hospitalised patients present with both additional smoking related risks that may interfere with recovery, and opportunities to quit with the increased availability of clinicians and interventions. Hospital based interventions are effective at helping patients to quit smoking.

PATIENTS WITH MENTAL HEALTH DISORDERS

Nicotine withdrawal may exacerbate a patient's co-morbid condition and this risk must be considered when planning smoking cessation strategies. These patients also have a higher risk of relapse.

WEIGHT GAIN

There is some evidence to suggest strict dieting and other attempts to prevent weight gain will undermine the attempt to quit smoking. However, the use of NRT gum will delay the onset of weight gain.

MULTIFACETED APPROACH

Assisting patients to quit smoking is complex and requires a systematic and multifaceted approach. The benefits of promoting smoking cessation particularly amongst hospital in-patients are well recognised not only for the individual concerned but the whole community.

There are a range of interventions and strategy alternatives that are supported by quality research-based evidence. Although they may be effective in isolation, a program of multiple interventions including appropriate pharmacotherapy with advice and support tailored to the individual, are more likely to achieve success.

These interventions can only be effectively applied if there are systems in place to screen, assess and follow up patients who wish to quit smoking.

CONSENSUS-BASED CONCLUSIONS

The pharmacist has an important role to play in smoking cessation in a number of ways: through opportunistic advice, through intermediate interventions (delivering behavioural support and pharmacological treatment). In addition to recommendations based on research evidence, there are a number of recommendations, listed below, arising from reviews derived from expert opinion:

- Clinical screening systems should be expanded to include smoking status in vital signs to assist in assessment and documentation
- Continuity of abstinence should be assessed regularly throughout and on completion of treatment
- Patients not willing to undertake a smoking cessation programme at initial contact should be provided with motivational advice
- If the patient has relapsed, further intervention should be offered
- Ex-smokers no longer actively in a smoking
cessation program should have the positive benefits of that decision reinforced and should be assisted with any residual problems related to smoking cessation.

References
Author Information

S. S. Biradar
Dept of pharmaceutics, Kles College of Pharmacy

S. N. Mamalaedesai
Dept of pharmaceutics, Kles College of Pharmacy

V. P. Rasal
Dept of pharmaceutics, Kles College of Pharmacy