

Key learning points

- **Smoking is a major determinant of health inequality for those with mental illness**
- **With appropriate support, those with mental illness are able to stop smoking**
- **Doses of some medication can be significantly reduced within days of cessation**
- **Combination NRT improves cessation rates**

Smoking - the biggest killer

Smoking is the largest cause of preventable illness in the UK with smokers dying on average 10 years earlier than non-smokers.[1] In 2005 in the UK, deaths attributable to smoking were 109,164 and direct cost of smoking to NHS was £5.2 billion.[2] Smokers who smoke at least 20 cigarettes a day also have a 61% increased risk of type 2 diabetes compared with non-smokers.[3]

People with mental health problems smoke significantly more than others [4] and therefore experience proportionally even greater smoke-related harm.

Smoking and mental illness

On average, the life expectancy of a person with schizophrenia is 25 years shorter compared with the general population.[5] Since smoking is responsible for most of this increased mortality [6], many premature deaths are preventable with appropriate smoking cessation support.

Furthermore, the amount of tobacco smoked is related to the number of depressive or anxiety symptoms and, after cessation, such symptoms reduce.[7] [8]

Smoking cessation has been associated with a worsening of depression in a minority.[9] However, a review showed that smoke-free policies in psychiatric clinics had no negative effect on mental illness even when it led to withdrawal symptoms. [10]

Effective interventions exist

Pharmacotherapy and other support such as counseling can increase abstinence rates in those with mental health problems to similar rates as for the general population.[11] [12] However, people with mental illness have previously been less likely to receive smoking cessation interventions in primary care.[13]

Smoking and medication

Smoking increases metabolism of different medications including some antidepressants (tricyclics and mirtazapine), antipsychotics (clozapine, olanzapine and haloperidol) [14], some benzodiazepines and opiates.[15] This can result in significantly lower plasma levels [12] and therefore, larger doses are required for a similar therapeutic effect. However, following smoking cessation, doses of these medications will need to be reduced.

Cessation and medication

Stopping smoking can reduce metabolism of some medication resulting in higher, sometimes toxic blood levels over a few days.[12] [16] Therefore, it is recommended that:

1. Blood levels of clozapine (and olanzapine if

assays available) should be measured before smoking cessation.[16] With clozapine and olanzapine, 25% dose reduction should occur during first week of cessation and then further blood levels taken on a weekly basis until levels have stabilised.[16]

2. Doses of fluphenazine and some benzodiazepines should be reduced by up to 25% in first week of cessation.[16]
3. Tricyclic antidepressants may need to be reduced by 10-25% in first week.[16]

Further dose reductions may be required with continued cessation.

Role of pharmacists

Pharmacists often see patients and are in a position to:

- Explain how smoking cessation can improve physical and mental health
- Highlight to patients and prescribers the need for planned reduction of doses of some medications upon cessation (see above).
- Coordinate pharmacy support with community and inpatient psychiatric care services, primary care and NHS Stop Smoking Services to offer ongoing smoking cessation support as part of a more joined up health promotion service.
- Encourage use of Nicotine Replacement Therapy (NRT) to all including those who continue to smoke which supports smoking reduction as a first step to cessation.
- Ensure that a choice of NRT is available

Pharmacists are also in an ideal position to monitor and support people who are trying to stop smoking in the following ways:

1. Pharmacists can legally supply medication through Patient Group Directions (PGDs) or prescribe if they are qualified as an independent or supplementary prescriber.
2. Monitoring of routine pharmacy interactions is an opportunity to encourage people to stop smoking (community pharmacists promote healthy lifestyles as part of the pharmacy contract).
3. Pharmacy-based health trainers may enhance the support which a pharmacy offers to someone who wishes to stop smoking.

Smoking cessation prescribing

This requires a coordinated approach with primary and secondary care prescribers to manage any required dose reductions upon cessation.

Nicotine replacement

Several different forms of NRT can be prescribed and use of locally agreed protocols can also be considered in order to improve access.

Patches: 16-hour and 24-hour patches are available with no difference in efficacy. Both

types come in several strengths to allow gradual weaning. A high dose patch should be used for those who normally smoke more than 20 cigarettes per day.

Gum: (2mg/4mg chewed when urge to smoke occurs) up to 15 pieces daily.

Sublingual tablets: one (2mg) tablet per hour for those smoking 20 cigarettes daily and two tablets per hour for those smoking 40 cigarettes daily.

Nasal spray: maximum dose 2 sprays per hour or 32 sprays per day.

Inhalator: 10mg/ cartridge used with plastic mouthpiece. Dose initially up to 12 cartridges per day – puffed for 20 minutes every hour.

Lozenges: 1mg, 2mg and 4 mg up to maximum 15 per day.

Indications: gum, inhalators and lozenges are licensed for both smoking cessation and smoking reduction. Patches, sublingual tablets and nasal spray are licensed only for smoking cessation. All NRT should be used for 8-12 weeks but may be continued after this time.

Speed of action: Different NRT products vary in their speed of nicotine delivery and effectiveness with nasal spray most effective, then tablets/lozenges, inhalers, patches with gum the least effective.[17] Combining a nicotine patch with a rapid-delivery form of NRT is more effective than a single type of nicotine replacement.[17] This is important particularly with highly dependent and agitated patients.

Bupropion

Bupropion is an atypical antidepressant which acts as an adrenaline and dopamine reuptake inhibitor as well as nicotinic antagonist thereby reducing nicotine cravings and withdrawal symptoms.

Dosing: start 1-2 weeks before planned quit date at 150mg daily for 6 days, then 150mg twice daily for maximum 7-9 weeks.

Side effects: the most important side effect is seizure and bupropion is contraindicated in bipolar affective disorder and epilepsy. Other side effects include dry mouth, constipation, nausea and insomnia.

Bupropion for those with mental illness: Bupropion has been shown to be effective in those with depression and schizophrenia. However, since it has been associated with increased anxiety and depression, it is not considered first-line. MHRA (2009) advised that bupropion should not be prescribed to people with depression or suicidal thoughts.[18]

Interactions: bupropion should not be prescribed with other drugs that can cause seizures such as tricyclic antidepressants and antipsychotic medication although this

risk varies according to dose and medication. Safer choices for concurrent use with bupropion include sulpiride, trifluoperazine and haloperidol. Greater care is required with risperidone, olanzapine, amisulpride and quetiapine although these drugs have very minimal effect on seizure threshold. Clozapine, chlorpromazine and depot injections should be avoided.[16]

Bupropion can increase blood levels of citalopram so should not be taken concurrently and should be avoided for two weeks after stopping.[19] However, the two drugs have been used safely as co-therapy in the STAR-D study.[20] Bupropion is contraindicated with MAOIs.

Varenicline

Varenicline is a nicotine receptor partial agonist and has been reported to be more effective than NRT or bupropion.[21]

Side effects: since launch in 2006, depression, suicidal thoughts and suicidal behaviour have been the most commonly reported suspected side effects.[18] Other common side effects include nausea, increased appetite, insomnia, abnormal dreams, headaches and drowsiness.[18]

Recent alerts for bupropion and varenicline

- MHRA highlighted that depression, suicidal thoughts, suicide attempts and completed suicides have been reported in patients taking varenicline who have no known pre-existing psychiatric conditions.[18]
- MHRA advise care if varenicline is prescribed to patients with a history of psychiatric illness. [18]
- In July 2009, the FDA required both varenicline and bupropion to carry the agency's strongest safety warning due to side effects including changes in behaviour, hostility, agitation, depressed mood, suicidal thoughts and behaviour, and attempted suicide including in those with no previous history of psychiatric illness.[22] The added warnings were based on post-marketing adverse event reports.
- Symptoms of depression can occur due to other factors such as nicotine withdrawal, other illness or medications.[18]

Need for close monitoring while taking bupropion and varenicline

- If patients taking varenicline or bupropion develop suicidal thoughts, agitation, depressed mood, or display any changes in behaviour which are of concern for the doctor, patient, family, or caregiver, they should stop bupropion or varenicline and contact their doctor immediately.[18]
- Due to potential association with depression, suicidal ideation and possible exacerbation of underlying psychiatric illness, close, regular monitoring by health professionals including psychiatrists, GPs and community health staff should occur through a clearly negotiated plan of support especially in the first 2-3 weeks with clear strategies for responding in the event of changes.
- If varenicline or bupropion is stopped due to neuropsychiatric symptoms, patients should be monitored until the symptoms resolve.
- Family members and caregivers should also be alerted to the potential for such changes.

Useful Resources

- **2010/11 update of the NHS Stop Smoking Services service and monitoring guidance:** This document provides best practice guidance relevant to the provision of all NHS stop smoking interventions including for those with mental illness. It sets out fundamental quality principles for the delivery of services and stop smoking support: http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_109696
- **Forum website** has the following documents which can be downloaded from www.rcpsych.ac.uk/college/mentalhealthinprimarycare.aspx
 - ▶ Faculty of Public Health position statement about smoking and mental health
 - ▶ Primary Care Guidance on Smoking and Mental Health
- **Virtual Wards website** has a number of useful resources including reports, editorials, and resources related to smoking and health promotion. <http://www.acutecareprogramme.org.uk/tags/?tag=smoking>
- **Help at Hand leaflet** produced by the Royal College of Psychiatrists provides information to smokers and staff and can be downloaded at <http://www.rcpsych.ac.uk/mentalhealthinfo/problems/smokingandmentalhealth.aspx>

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First Step Trust is a national charity providing real work and employment opportunities for people excluded from ordinary working life because of mental health problems and other disadvantages www.firststeptrust.co.uk

The Forum

The Forum for Mental Health in Primary Care is jointly hosted by the Royal College of Psychiatrists and the Royal College of General Practitioners. It aims to encourage communication, collaboration and creativity between individuals and organisations who work to enable day-to-day mental health in everyone.

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