The medical management of tobacco dependency: from negligence to excellence

One in two people that smoke tobacco will die prematurely and for every person that dies, thirty more will suffer from the serious diseases it causes. Treating this deadly disease lies on the shoulders of every healthcare professional, all of whom have a responsibility to provide highly effective and evidence-based interventions. Failure to treat tobacco dependency falls far below the required standard of care and could be considered negligent.

Introduction

Smoking tobacco is both uniquely addictive and harmful. One in two people who smoke die as a result of smoking. Over the last 50 years it has been responsible for approximately 8 million deaths in the UK (Action on Smoking and Health, 2021). Approximately 6 million people still smoke in the UK, with the poorest members of society disproportionately affected. Without urgent action to ensure all are offered access to highly effective treatments for tobacco dependency, millions more will die. Compounding this tragedy is that despite tobacco dependency treatment being the single most cost-effective life-saving intervention the NHS could provide, fewer than 5% of all smokers in the UK get access to treatment and support services (Nuffield Trust, 2022). There are many reasons for this, including a lack of healthcare professional training in the treatment of tobacco dependency to empower frontline clinicians to proactively identify patients with this disease and commence effective treatment that may lead to long-term abstinence. This is unsurprising when only 40% of medical schools include tobacco dependency on their curriculum, despite tobacco being the single biggest cause of preventable death, illness, disability and social inequality (Royal College of Physicians, 2018).

Acute care hospitals are an important battleground in the fight against the harms caused by tobacco. There is a concentrated population of sick smokers in hospital; approximately 1 million smokers are admitted to hospital every year and on any given day, 20 000 patients that smoke are in NHS beds (Szatkowski et al, 2015). Admission into hospital is a unique teachable moment where a person that smokes is removed from their normal environmental cues to smoke and is often highly receptive to treatment and support. Furthermore, providing comprehensive tobacco dependency treatment services in acute care trusts rapidly and significantly reduces subsequent re-admission rates and mortality (Mullen et al, 2017). If applied across the NHS, it is estimated such services would save £60 million per year in healthcare use costs (Royal College of Physicians, 2018). Early implementers of these services in the UK have reported substantial benefits including 1 in 5 patients that smoke being abstinent from tobacco at 12 weeks after discharge and a public value return on investment of £30 for every £1 invested in the service (Evison et al, 2020, 2021). Finally, there are highly effective and evidence-based treatments for tobacco dependency which frontline clinicians can proactively discuss, prescribe, or advise upon during a hospital admission with patients that smoke, who may otherwise never have been given the opportunity to access these treatments.

Nicotine is highly addictive and drives dependency on tobacco, but nicotine does not cause the harms and diseases of smoking (National Institute for Health and Care Excellence, 2021). The harms come from the approximate 5000 additional chemicals produced when tobacco is burnt. This is possibly the single most important fact for a person that smokes to understand; they crave nicotine, but the delivery device they are using (cigarettes) exposes them to a poisonous combination of chemicals which kills one in two users.

Replacing nicotine

One strategy for treating tobacco dependency is to replace the source of nicotine with a safe source (nicotine replacement therapy) or a substantially less harmful source (vaping).

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How to cite this article:
Fullerton DG, Evison M. The medical management of tobacco dependency: from negligence to excellence. Br J Hosp Med. 2022. https://doi.org/10.12968/hmed.2022.0273

Nicotine replacement therapy has robust evidence for its efficacy but must be prescribed appropriately (Rigotti et al, 2012; Anthenelli et al, 2016; Lindson et al, 2019). Cigarettes are an exceptionally effective nicotine delivery device, using the alveolar membrane for access to the systemic circulation. The greatest challenge for nicotine replacement therapy is to deliver the same speed, dose and experience of nicotine to its users as smoking tobacco does. Nicotine replacement therapy is prescribed as a combination of a long-acting transdermal patch plus rapid-acting nicotine products which use the buccal membrane for absorption. To optimise the chances of success with nicotine replacement therapy, one tip is to use short-acting nicotine products 'on the hour every hour', as well as during cravings for cigarettes. Patients must understand the importance of using enough of a nicotine product to prevent relapse to cigarettes and feel reassured that they cannot overdose on nicotine.

Vaping is a form of nicotine replacement therapy, but the only one that uses the alveolar membrane for nicotine absorption. Therefore, this is the one intervention that can provide similar systemic nicotine levels to a cigarette. Combined with the same inhalation experience as smoking means it is a very popular intervention for smoking cessation. Vaping involves the heating of a nicotine liquid dissolved in an alcohol solvent; because there is no burning of tobacco, it is substantially less harmful than smoking tobacco. In a UK-based randomised controlled trial vaping was found to be twice as effective as nicotine replacement therapy in achieving a quit, a finding supported by a Cochrane review of all available evidence (Hajek et al, 2019; Hartmann-Boyce et al, 2021). It is important that patients who smoke are provided with consistent and correct information about vaping and its important role in treating tobacco dependency.

Treatments for tobacco dependency

A different treatment strategy in tobacco dependency is to break the addiction to nicotine with medicines that work on the brain's nicotine receptors. Varenicline is more effective than all other stop smoking medications in both randomised controlled trials and National Institute for Health and Care Excellence technology appraisals (National Institute for Health and Care Excellence, 2007; Anthenelli et al, 2016). Varenicline is a partial agonist and antagonist at the nicotinic receptor and therefore stimulates the receptor to reduce the craving to smoke, as it prevents nicotine from cigarette smoke stimulating the receptor. This takes away the pleasure of smoking and separates the 'action' and 'reward' cycle of addiction. Despite being the most effective stop smoking medication, the uptake and use of varenicline has been exceptionally poor (Devani and Evison, 2022). Potential reasons could include healthcare professionals' lack of confidence or familiarity with prescribing varenicline, as well as concerns over neuropsychiatric side effects, particularly suicidal ideation. This has been categorically disproven in an international randomised controlled trial of over 8000 patients; the act of stopping smoking carries a small risk (2% in patients without and 5% in patients with a history of mental health illness) of moderate to severe neuropsychiatric complications but this is regardless of the type of treatment (if any) used (Anthenelli et al, 2016). Despite this conclusive evidence, the uptake of varenicline is still poor; it is also currently unavailable following a recall as a result of concerns over potential contaminants. When varenicline is available, it must be a first-line treatment that every person that smokes is offered access to.

In 2021, the National Institute for Health and Care Excellence updated its guidelines on the treatment of tobacco dependency (National Institute for Health and Care Excellence, 2021). It concluded that the three most effective interventions for tobacco dependency are varenicline, vaping and combination nicotine replacement therapy, so these should be available to every person that smokes.

Conclusions

Tobacco dependency is a deadly disease and an important driver of health and social inequality. Treatments for tobacco dependency are the most clinically and cost-effective interventions the NHS can provide and it is critical that they are initiated in acute care

Key points

- Smoking tobacco is highly addictive and very harmful, which makes tobacco dependency the leading cause of death and illness and a major cause of health and social inequality, exacerbating poverty.
- Acute care hospitals are a pivotal battleground in the fight against tobacco dependency where substantial benefits can be realised to patients and the healthcare system.
- Nicotine drives the addiction in smoking but does not cause the harms of smoking – these are caused by the thousands of additional chemicals produced when tobacco is burnt.
- Nicotine replacement therapy is an effective treatment for tobacco dependency but must be prescribed correctly (combination of long-acting and short-acting products) and be used in adequate doses to prevent relapse to cigarettes.
- Vaping is a form of nicotine replacement therapy and is substantially less harmful than smoking tobacco. It is a more effective stop smoking intervention than conventional nicotine replacement therapy.
- Varenicline acts on nicotine receptors in the brain and is the most effective stop smoking medication. Categorically, it does not cause mental health side effects. Every person that smokes should have access to this treatment.
- Healthcare professionals have a responsibility to develop the confidence and competence to identify and treat the disease of tobacco dependency – to do otherwise would be both unethical and negligent.
- Standardised protocols for the medical management of tobacco dependency would support frontline clinicians deliver excellence of care. An example of a regional protocol is provided at: https://gmmmg.nhs.uk/wp-content/uploads/2022/02/GMMMG-Tobacco-Dependency-Treatment-Guideline-January-2022-FINAL.pdf

hospitals. Gone are the days when a healthcare professional documents smoking status within a 'social history' and tells a patient that smokes to stop. This falls far below the required standard of care and could be considered negligence. To achieve excellence of care, 'tobacco dependency' should be documented as a comorbidity and, like other disease management, the initial treatment should be commenced by the front-line admitting clinicians before being handed over to specialist practitioners who continue to treat and support that person during the hospital admission and beyond.

All healthcare professionals have a responsibility to develop both the confidence and competence to identity and manage this disease. Treating tobacco dependency is every clinician's responsibility; not treating and addressing it should be considered unethical.

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