Pharmacist's role in the management of tobacco use disorder

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A systematic review and meta-analysis involving community pharmacy-delivered interventions for smoking cessation demonstrated effectiveness compared with controls, ranging from 28% to 46% (for counselling and NRT) and 13.8% to 15% for counselling, vs. 1.3% to 8% for controls) at 6 to 12 months.[1]

Cessation delivery based on the 5 A's (ask, advice, assess, assist and arrange) strategy is designed to be brief and minimal time is required. Upon identifying a smoker, pharmacists can provide opportunistic advice to increase the smoker's motivation to quit to improve the success rate of quitting, offer assistance or make a referral (e.g. to a quit smoking clinic), assist by recommending pharmacotherapy and arrange a follow-up. There is high-quality evidence that individually-delivered smoking cessation counselling resulted in higher abstinence rates as compared to group or phone counselling and self-help. There is moderate-quality evidence of a relatively smaller benefit when counselling is used in addition to pharmacotherapy, and of more intensive counselling (longer and multiple sessions) compared to a brief counselling intervention.[2]

Various models have been proposed regarding increasing motivation of smokers and their willingness to quit. The Transtheoretical Model of Change or 'Stage of Change' model has been used to determine smokers' willingness to quit. However, there is a lack of evidence for greater effectiveness of quitting using stage-based approaches, indicating that readiness or motivation to stop smoking may not be integral for quitting.[3]

Pharmacotherapy for smoking cessation

All smokers attempting to quit should be offered pharmacotherapy unless contraindicated. Agents approved include nicotine replacement therapy (NRT), e.g. gum and patch, and non-nicotine based, e.g. varenicline and sustained release (SR) bupropion. The choice of a specific first-line pharmacotherapy is guided by efficacy, safety, suitability and cost factors. For instance, the NRT patch is the most discreet among the NRT products. Conversely, some smokers prefer an oral form of the NRT products (e.g. gum) since it may address the hand and/or mouth fixation associated with smoking. Others prefer the simplicity of taking a tablet, as in the case of varenicline.[3]

Evidence shows that all forms of NRT make it more likely for a person's quit attempt to succeed. The chances of stopping smoking were increased by 50% to 70%. The evidence suggests no overall difference in effectiveness between different forms of monotherapy NRT. NRT products work with or without additional counselling, but combination of pharmacotherapy with behavioural intervention yields the best results. Evidence suggests that increasing the amount of behavioural support for people using a smoking cessation agent increases the chances of quitting smoking in the long term by about 10% to 25%.[4]

Dosing is usually based on the severity of nicotine dependence. Despite some issues concerning its validity and reliability, the Fagerström Test for Nicotine Dependence (FTND) is still widely used to assess the level of nicotine dependence among cigarette smokers. The FTND incorporates two questions, i.e. the Heaviness of Smoking Index (HSI), assessing the number of cigarettes smoked per day and the time-to-first cigarette (TTFC). More heavily dependent smokers usually need higher doses of NRT, e.g. the 4 mg NRT gum is preferred over the 2 mg.

Side effects from using NRT are related to the type of product and the technique used, and may include skin irritation from patches and irritation to the inside of the mouth from gum and lozenge, and in rare cases can cause non-ischaemic chest pain and palpitations.

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Varenicline, a selective nicotine receptor partial agonist, may help people stop smoking by a combination of maintaining moderate levels of dopamine to counteract withdrawal symptoms and reducing smoking satisfaction (by acting as an antagonist). The odds of quitting were between two and three times higher with varenicline than that with placebo. Varenicline was about 50% more effective than any NRT monotherapy, but similar in efficacy to combining two types of NRT.[5]

The most commonly reported adverse effect of varenicline is nausea, which is mostly at mild to moderate levels and usually subsides over time. The findings of the largest cessation trial to date (EAGLES) on varenicline and bupropion in comparison with NRT and placebo in subjects with and without psychiatric disorders do not support a causal link between varenicline and neuropsychiatric disorders, including suicidal ideation and suicidal behaviour.[6]

The recommended duration of pharmacological treatment is 12 weeks. The use of NRT for less than 4 weeks was associated with reduced likelihood of cessation. NRT use for longer periods of time has been associated with a higher likelihood of cessation. However, data suggest no overall benefit for using patches beyond eight weeks.[7]

Mono versus combo pharmacological treatment

Monotherapy of NRT provides lower level of plasma nicotine as compared to that produced by cigarette smoking. A meta-analysis shows combining the nicotine patch with a more rapidly absorbed form of NRT is more effective than using a single product, with a risk ratio of 1.34. Combination NRT is now considered the standard of care for using NRT and should be recommended as initial therapy when NRT is chosen. Combination therapy may be most useful for smokers at highest risk of relapse, e.g. heavy smokers, smokers who have relapsed multiple times, or smokers with psychiatric co-morbidities.[8]

Electronic cigarette for cessation

Electronic cigarette (EC) use for smoking cessation has generated considerable debate. ECs seem to reduce risks of smoking and useful for quitting, but policy makers have been reluctant to encourage smokers to switch to ECs, citing lack of evidence of efficacy and safety. In addition, there are concerns of health hazards from their use; from nicotine poisoning, hazards of flavourings, risk of exposure to carcinogens, as well as threat to re-normalise smoking. Since EC is a relatively new phenomenon, the long-term safety of ECs is still unknown.

Cigarette smokers who initiated and reported they used EC daily had 7.88 times the odds of 30-day cigarette cessation compared with non-users. Cigarette smokers who began using EC every day and did not achieve cessation had 5.7 times the odds of reducing their average daily cigarette use by at least 50%.[9] A meta-analysis by Kalkhoran and Glantz showed that smokers who use ECs are 28% less likely to quit smoking compared to those who did not use them.[10]

Smokers not willing to quit

Pharmacists often encounter smokers whom are not currently ready to quit. They should receive at least one of two evidence-based motivational treatment; motivational interviewing and provision of smoking cessation medications as part of a plan to gradually reduce smoking. Emerging evidence suggests that motivational interviewing, a non-confrontational discussion of the pros and cons of changing behaviour, can increase

quit attempts among smokers initially unwilling to quit.[11] Such patients may respond to a motivational intervention built around the 5R's: relevance, risks, rewards, roadblocks and repetition.

Relapse prevention

For smokers who have recently quit, relapse prevention intervention may focus on identifying and resolving tempting situations or smoking cues. However, there is insufficient evidence to support the use of any specific behavioural intervention to help smokers who have successfully quit for a short time to avoid relapse. The verdict is strongest for interventions focused on identifying and resolving tempting situations, as most studies were concerned with these. Extended treatment with varenicline may prevent relapse. Studies of extended treatment (beyond 12 weeks) with nicotine replacement are needed.[12]

Need for tobacco treatment specialists

Community pharmacy-delivered smoking cessation interventions combining behavioural support and first-line pharmacotherapy, are effective and cost effective, particularly when compared with usual care. Pharmacists have a greater role to play to effectively deliver smoking cessation services. This requires pharmacists to undergo extra training towards becoming tobacco treatment specialists. Reimbursement for such professional pharmacist service should be introduced. Research is needed to ascertain the efficacy and safety of emerging products for smoking cessation and treatment of special populations.

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REFERENCES

1. Brown TJ, Todd A, O'Malley C, *et al.* Community pharmacy-delivered interventions for public health priorities: a systematic review of interventions for alcohol reduction, smoking cessation and weight management, including meta-analysis for smoking cessation. BMJ Open 2016;6:e009828. doi:10.1136/bmjopen-2015- 009828.
2. Lancaster T, Stead LF. Individual behavioural counselling for smoking cessation. Cochrane Database of Systematic Reviews 2017, Issue 3. Art. No.: CD001292. DOI: 10.1002/14651858.CD001292.pub3.
3. Riemsma RP, Pattenden J, Bridle C, Sowden AJ, Mather L, Watt IS, Walker A. Systematic review of the effectiveness of stage based interventions to promote smoking cessation. BMJ. 2003; 326: 1175.
4. Stead LF, Koilpillai P, Lancaster T. Additional behavioural support as an adjunct to pharmacotherapy for smoking cessation. Cochrane Database of Systematic Reviews 2015, Issue 10. Art. No.: CD009670. DOI: 10.1002/14651858.CD009670.pub3.
5. Anthenelli RM., Benowitz NL, West R, St Aubin L, McRae., Lawrence, D, Evins A E. Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. The Lancet, 2016; 387(10037): 2507-20.
6. Hughes JR, Stead LF, Hartmann-Boyce J, Cahill K, Lancaster T. 2014. Antidepressants for smoking cessation. Editorial Group: Cochrane Tobacco Addiction Group.1: CD000031.pub4 DOI: 10.1002/14651858.
7. Zhang B, Cohen JE, Bondy SJ,Selby P. 2015. Duration of Nicotine Replacement Therapy Use and Smoking Cessation: A Population-Based Longitudinal Study. American Journal of Epidemiology. 181 (7): 513-20 doi: 10.1093/aje/kwu292.
8. Ebbert JO, Hays JT, Hurt RD. 2010. Combination Pharmacotherapy for Smoking Cessation. Drugs 70(6):643-50.
9. Berry KM, Reynolds LM, Collins JM, *et al.* E-cigarette initiation and associated changes in smoking cessation and reduction: the Population Assessment of Tobacco and Health Study, 2013–2015. Tobacco Control 2019; 28: 42-9.
10. Kalkhoran S, Glantz SA. 2016. E-cigarettes and smoking cessation in real-world and clinical settings: a systematic review and meta-analysis. Lancet Respiratory Medicine doi: 10.1016/S2213-2600(15)00521-4.
11. Lindson-Hawley N, Thompson TP, Begh R. Motivational interviewing for smoking cessation. Cochrane Database Syst Rev. 2015:CD006936.
12. Hajek P, Stead LF, West R, Jarvis M, Hartmann-Boyce J, Lancaster T. Relapse prevention interventions for smoking cessation. Cochrane Database of Systematic Reviews 2013, Issue 8. Art. No.: CD003999. DOI: 10.1002/14651858.CD003999.pub4.