

Smoking Cessation Research Review™

Making Education Easy

Issue 3 – 2011

In this issue:

- > *Stop-smoking interventions: effectiveness varies*
- > *'Closet' quit attempts*
- > *Do genetics influence tobacco dependence?*
- > *Electronic cigarettes: a useful cessation aid?*
- > *Physicians positively impact teen tobacco use*
- > *Abrupt vs gradual smoking cessation*
- > *Smoking cessation behavior among intermittent smokers*
- > *Non-nicotine inhalers increase quit rates*
- > *Is it becoming harder to quit smoking?*
- > *Nicotine gum compliance = less weight gain*

Welcome to the third edition of Smoking Cessation Research Review.

A UK-based evaluation of smoking cessation interventions reports that quit rates are higher when stop-smoking support is delivered by specialist clinics, treatment in groups and varenicline or a combination of two or more forms of nicotine replacement therapy (NRT), compared with treatment given in primary care, on a one-to-one basis or by single NRT. The study authors conclude that all smokers should have access to, and be encouraged to use, the most effective intervention options.

Findings from another study are contrary to the general belief that smokers should be advised to tell others about pending quit attempts. Apparently, smokers commonly attempt to quit smoking without telling anyone in advance and their cessation outcomes are as good as those who make advanced disclosure of quit attempts.

We hope you find this edition stimulating reading, and we welcome any comments or feedback.

Kind regards,

Dr Chris Tofield

Medical Advisor, Research Review

christofield@researchreview.co.nz

What makes for an effective stop-smoking service?

Authors: Brose LS et al

Summary: In this evaluation of factors that influence the effectiveness of stop-smoking services (SSSs) in the UK, these researchers examined data from 126,890 treatment episodes in 24 SSSs in 2009–10 to assess the association between intervention characteristics and success rates, adjusting for key smoker characteristics. Biochemically verified 4-week smoking abstinence rates varied substantially across intervention options: smokers more likely to succeed were those given single nicotine replacement therapy (NRT) versus no medication (OR 1.75), a combination of two or more forms of NRT or varenicline versus single NRT (OR 1.42 and OR 1.78, respectively), group support versus one-to-one support (OR 1.43), and stop-smoking support from specialist clinics versus primary care settings (OR 0.80).

Comment: The UK NHS Stop Smoking Services (NHS SSSs) were established in 1999 and provide free evidence-based smoking cessation treatments to people who want help in quitting. Short-term quit rates (measured at 4 weeks after a target quit date) are generally around 50%, however, this rate varies between individual services.

This study looked at a wide range of treatment factors to ascertain which ones were associated with higher success. The analyses showed that using smoking cessation medication as part of treatment, group-based treatment format, and specialist clinics were associated with higher short-term quit rates. These 'real world' findings reflect what is seen in clinical trials.

Whilst the NHS SSSs are effective at helping people stop smoking, they remain under-utilised. Only 5% of the population who smoke currently access these services. There is a general reluctance of smokers to use dedicated treatment services. Front-line healthcare workers have an important role to play in not only prompting quit attempts but also in promoting services that will increase the chances of the quit attempt being successful.

Reference: *Thorax*. 2011 Jun 27. [Epub ahead of print]

<http://thorax.bmj.com/content/early/2011/06/27/thoraxjnl-2011-200251.abstract>



**FULLY FUNDED for smoking
cessation without Special Authority**

Zyban® (bupropion hydrochloride tablets 150mg) is a fully funded, prescription medicine for the treatment of nicotine dependence as an aid to smoking cessation. Before prescribing **Zyban**, please review the Data Sheet at www.medsafe.govt.nz. **Zyban** is a registered trade mark of the GlaxoSmithKline group of companies. Marketed by GlaxoSmithKline NZ Limited, Auckland.
TAPS DA4210AH/10NO/285



'Closet' quit attempts: prevalence, correlates and association with outcome

Authors: Carpenter MJ et al

Summary: Outcomes are reported from an online survey completed by 524 daily smokers (55% current and 45% past-year quitters) who had at least one quit attempt in the past year. The survey explored the prevalence, predictors, and cessation outcomes of smokers who engage in undisclosed quit attempts. Almost half ($n=234$; 45%) reported that their most recent quit attempt was undisclosed to anyone in advance. People were less likely to be 'closet quitters' if they planned their quit attempt in advance (OR 0.10) or used behavioural treatment (OR 0.14); those who rated their attempt as being serious (OR 2.52) and those who deemed social support to be unhelpful (OR 1.91) were more likely to make such attempts. Closet quit attempters were more likely to achieve 30 days of abstinence than were those who made advanced disclosure (67% vs 58%; adjusted OR 1.8), although 6-month abstinence rates did not differ between the groups (52% vs 49%, respectively; adjusted OR 1.2).

Comment: The general advice provided by many smoking cessation services is to tell others that you are making an attempt to stop smoking. The rationale behind this advice is that it strengthens commitment to the quit attempt, increases social support, and may decrease smoking cues (e.g. people are less likely to offer cigarettes if they know about a quit attempt). There are, however, people that don't wish to tell others and we often assume that this may be because of low self-efficacy.

This study explored smoking behaviour in these people (people who make 'Closet Quit Attempts'). The authors not only found that closet quit attempts are common, but also do not influence long-term smoking cessation outcome. These data debunk a commonly given piece of smoking cessation advice. In my future practice I think that I will let people decide if they want to tell others of their plans to quit instead of recommending that they do.

Reference: *Addiction*. 2011 Jun 14. doi: 10.1111/j.1360-0443.2011.03538.x. [Epub ahead of print]

<http://tinyurl.com/6dn3jds>

Systematic review of the relationship between the 3-hydroxycotinine/cotinine ratio and cigarette dependence

Authors: West O et al

Summary: These researchers systematically reviewed the evidence on the relationship between the 3-hydroxycotinine:cotinine ratio and cigarette dependence, to determine whether individual differences in the rate of nicotine metabolism (RNM) relate to dependence and success in stopping smoking. The analysis included 27 studies. While there was only limited evidence as to a relationship between the ratio and smoking behaviours and cigarette dependence, the paper notes that the ratio has been linked to smoking at night and to some aspects of smoking topography. Interestingly, one study suggested that the ratio predicts outcome of unaided quitting and there was evidence suggesting that the ratio may predict treatment responses both to nicotine replacement therapy (NRT) and bupropion.

Comment: From time to time one reads reports in the media regarding the role of genetic factors in quitting smoking. There is no doubt that genetics play a role in influencing both the likelihood of becoming tobacco dependent and success in giving up. However, these relationships are not always straightforward.

This review looks at the role of the rate of nicotine metabolism (RNM). Nicotine is metabolised in the liver and broken down into cotinine (COT), which is further metabolised to *trans*-3'-hydroxycotinine (3HC). Both of these metabolites can be measured in body fluids including blood, urine and saliva. The ratio of 3HC:COT is an indicator of the RNM.

It is often said that fast nicotine metabolisers smoke more cigarettes per day. This review confirmed this association, although it is weak at best. There was no evidence of a significant association between RNM and measures of tobacco dependence. However, there seems to be an indication that RNM may be useful in guiding treatment. Slow nicotine metabolisers may do better using NRT whereas non-nicotine treatment might be first choice for fast nicotine metabolisers. Further research in this field is needed, but perhaps in the future a simple saliva test could help clinicians identify the best treatment option for their patients who smoke.

Reference: *Psychopharmacology (Berl)*. 2011 May 20. [Epub ahead of print]

<http://www.springerlink.com/content/trv6414545723432/>

Electronic cigarette: users profile, utilization, satisfaction and perceived efficacy

Authors: Etter JF, Bullen C

Summary: According to this internet survey conducted in English and French in 2010 among visitors of websites and online discussion forums dedicated to electronic cigarettes ("e-cigarettes") and to smoking cessation, the ways in which e-cigarettes are used are similar to how people use nicotine replacement medications. A total of 3587 e-cigarette users responded to the survey (70% former tobacco smokers, 61% men, mean age 41 years). They reported a median 3-month duration of electronic cigarette use, drawing 120 puffs/day and using 5 refills/day. Almost all (97%) used e-cigarettes containing nicotine. Daily users spent \$33 per month on these products. Users said the e-cigarette helped them quit smoking (96%) or reduce their smoking (92%). They perceived it as less toxic than tobacco (84%), helpful for dealing with craving for tobacco (79%) and withdrawal symptoms (67%), as an aid for quitting smoking or avoiding relapse (77%), cheaper than smoking (57%) and enabling them to deal with situations where smoking was prohibited (39%). Most ex-smokers (79%) feared they might relapse to smoking if they stopped using the e-cigarette. Users of nicotine-containing e-cigarettes reported better relief of withdrawal and a greater effect on smoking cessation than those using non-nicotine e-cigarettes.

Comment: Electronic cigarettes (e-cigs) are currently being promoted to smokers as a safer alternative to smoking. Many of my patients are asking about these in terms of efficacy and safety. There are currently very few data regarding these products to be able to accurately answer these questions. Nonetheless, people who smoke are using these devices and this report suggests that many find them effective in alleviating tobacco withdrawal symptoms and even in quitting smoking. This paper also shows that there is some fear among users that if e-cigs are removed from the market they will relapse to smoking cigarettes.

Research is desperately needed in this field to help guide policy makers and clinicians. These survey data suggest that e-cigs may be a useful addition to our smoking cessation toolkit. A randomised controlled trial is currently underway at the University of Auckland that will help determine if this is the case.

Reference: *Addiction*. 2011 May 18. doi: 10.1111/j.1360-0443.2011.03505.x. [Epub ahead of print]

<http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2011.03505.x/abstract>

Physician communication regarding smoking and adolescent tobacco use

Authors: Hum AM et al

Summary: This US-based study explored the impact of physician advice on adolescent smoking, in this retrospective analysis of data from 5154 students attending an urban, mid-South school system. Physician advice and the combination of screening and advice were associated with healthier attitudes about smoking. Physician screening and advice were also associated with a more accurate knowledge regarding tobacco-related damage. Intentions to smoke in 5 years were lower among smokers who received physician advice. Advised students were also more likely to plan on quitting in 6 months. Those who were screened by their physician reported significantly more quit attempts than those who were neither screened nor advised ($p=0.007$).

Comment: Brief advice to quit smoking is a key component of the 'ABC approach' for smoking cessation. Data supporting the efficacy of brief advice comes mainly from studies of doctors giving advice to adult smokers. Data from this study suggest that brief advice delivered to teenagers who smoke is also effective in promoting quit attempts.

Reference: *Pediatrics*. 2011;127(6):e1368-74.

<http://pediatrics.aappublications.org/content/127/6/e1368.abstract>

Find healthcare jobs
in your area

trade me
JOBS 

www.trademe.co.nz/jobs

Comparing abrupt and gradual smoking cessation: A randomized trial

Author: Etter JF

Summary: This study randomised smokers with no strong preference for abrupt or gradual quitting to quitting immediately (n=472), or to gradually reducing their cigarette consumption over 2 weeks and then quit (n=502). Smokers who strongly preferred to quit abruptly were instructed to do so immediately (n=2456), those who strongly preferred gradual were instructed to reduce their cigarette consumption over 2 weeks, then quit (n=1801). Those who preferred abrupt quitting had the highest motivation to quit and were the most confident in their ability to quit. At follow-up (4 weeks after target quit dates), quit rates were 16% in those who preferred abrupt cessation, 7% in those who preferred gradual cessation and 9% in those who had no preference (p<0.001). In the latter group, quit rates were equal for those randomised to abrupt or gradual (9%, p=0.97). In those who expressed a strong preference for either method, those who preferred and used abrupt rather than gradual were more likely to quit at follow-up if they had low levels of motivation or low levels of confidence.

Comment: The usual advice when helping people to quit smoking is to encourage them to set a quit date, smoke as normal up to this day and then quit stop smoking completely aiming not to have a single puff after this. However, some people do not like the thought of quitting abruptly and would prefer to cut down gradually.

The findings of this study suggest that for people who do not have a preference it does not matter which approach is advised.

People with a preference to cutting down are typically those who are more highly tobacco dependent and with low levels of self-efficacy. Low self-efficacy is often a result of failed previous quit attempts. These smokers should be reassured that some people take a number of attempts to quit before they finally succeed. Assisting the quit attempt with a combination of behavioural support and pharmacotherapy is likely to increase the chance of success.

Reference: *Drug Alcohol Depend.* 2011 May 13. [Epub ahead of print]

<http://www.sciencedirect.com/science/article/pii/S0376871611001888>

Privacy Policy: Research Review will record your email details on a secure database and will not release them to anyone without your prior approval. Research Review and you have the right to inspect, update or delete your details at any time.

Disclaimer: This publication is not intended as a replacement for regular medical education but to assist in the process. The reviews are a summarised interpretation of the published study and reflect the opinion of the writer rather than those of the research group or scientific journal. It is suggested readers review the full trial data before forming a final conclusion on its merits.

Smoking cessation behavior among intermittent smokers versus daily smokers

Authors: Tindle HA, Shiffman S

Summary: These researchers explored cessation behaviour among non-daily intermittent smokers (ITS): 2040 native-ITS, 1808 converted-ITS, and 25,344 daily smokers (DS). Attempts to quit were more likely among all ITS than among DS (native-ITS adjusted odds ratio [AOR] 1.60, 95% CI 1.42 to 1.80; converted-ITS AOR 3.33, 95% CI 2.93 to 3.78). Quit smoking rates were lower among DS (13%) than among native-ITS (18%; AOR 1.34, 95% CI 1.07 to 1.67) and converted-ITS (27%; AOR 2.36, 95% CI 2.01 to 2.78). However, the study authors note that the low cessation rates of ITS challenge their nonaddicted status.

Comment: There is a growing number of people who are non-daily or intermittent smokers. These people often refer to themselves as 'social smokers'. Of course, even low levels of tobacco consumption are associated with health risks and all smokers, regardless of tobacco consumption, should be advised to quit.

It is sometimes assumed that social smokers do not want to quit. This study suggests that this is not the case, and such smokers do try and quit and are actually more likely to make a quit attempt than daily smokers. Furthermore, they are more likely to succeed in quitting, which probably reflects their lower level of tobacco dependence. However, it is clear that even social smokers find quitting difficult as reflected in quit rates of below 30%. Although data on the efficacy of smoking cessation treatments are limited in this group of smokers, they can still be offered to people who want to quit.

Reference: *Am J Public Health.* 2011;101(7):e1-3.

<http://ajph.aphapublications.org/cgi/content/abstract/101/7/e1>

Effect of a nicotine free inhalator as part of a smoking cessation program

Authors: Caponnetto P et al

Summary: This study assessed the effectiveness of using a nicotine-free inhaler (PAIPO) to help stop smoking among 120 healthy smokers attending a standard smoking cessation programme (pharmacological treatment with high-dose nicotine patch plus 300 mg/day bupropion and counselling). Data were available from 90 (75.0%) and 85 subjects (70.8%) who completed follow-up visits at weeks 4 and 24, respectively. While overall quit rates did not differ significantly between the PAIPO group and the reference group at week 24 (33.3% vs 28.3%), those who were identified as being heavily dependent on the behavioural pattern of smoking (high baseline scores on the Glover-Nilsson Smoking Behavioural Questionnaire; GN-SBQ) had a quit rate of 66.7% in the PAIPO group, compared with 19.2% in the reference group. A logistic model analysis indicated that a high GN-SBQ score was a strong independent predictor for successful quitting at week 24 (OR 8.88; 95% CI 2.08 to 37.94) in the PAIPO users.

Comment: People smoke primarily because of their dependence on nicotine, which is contained in the tobacco. Nicotine is quickly absorbed from tobacco smoke and reaches the brain within seconds where it exerts its 'rewarding' effects via activation of the mesolimbic dopamine system. There are, however, also non-nicotine aspects of smoking (e.g. the handling of the cigarette, the puffing, the taste and smell) that also become rewarding. Many smokers will report missing the 'act of smoking', or missing something to do with their hands when they quit and researchers are starting to investigate if replacing the behavioural aspect of smoking during a quit attempt improves outcome.

This study looked at the effect of using a non-nicotine inhaler on 6-month quit rates. Overall use of the inhaler made no difference. However, for those smokers who scored highly on a smoking behaviour questionnaire (i.e. the behaviour of smoking was important to them), providing a replacement for cigarettes did increase quit rates.

Research aimed at investigating the use of behavioural replacements such as de-nicotinised cigarettes and electronic cigarettes is currently underway and will help elucidate if behavioural replacement devices are beneficial for people, especially those who miss the physical attributes of smoking, when making a quit attempt.

Reference: *Eur Respir J.* 2011 May 12. [Epub ahead of print]

<http://erj.ersjournals.com/content/early/2011/05/12/09031936.00109610>

CHAMPIX[®], COMMITTED TO PRESENTING SMOKING CESSATION RESEARCH.

Please call Glenn Martin on 09 638 0091 or email glenn.martin@pfizer.com to discuss Champix and the resources available to assist with use in your practice.

CLICK HERE to read a review of Varenicline by Dr Hayden McRobbie

Before prescribing please refer to important safety information contained in the prescribing information attached or found at www.medsafe.govt.nz
¹www.pharmac.govt.nz/Schedule/SAForms. R&A number 221110A.

CHAMPIX[®]
 varenicline tartrate
 CHAMPIX IS FULLY FUNDED UNDER
 SPECIAL AUTHORITY¹

The hardening hypothesis: Is the ability to quit decreasing due to increasing nicotine dependence? A review and commentary

Author: Hughes JR

Summary: According to the "hardening hypothesis", tobacco control activities have largely helped those smokers who find it easier to quit and remaining smokers are those who are less likely to stop smoking. This review of the literature reports that it found no evidence overall for a decreasing ability to quit due to increasing nicotine dependence, although secondary analyses of treatment-seeking smokers found quit rates were decreasing over time. While cigarettes/day and time-to-first cigarette measures of dependence did not increase over time, two studies found that DSM-defined dependence appeared to be increasing over time.

Comment: As a clinician working in smoking cessation services, I often wonder if the population of smokers who seek treatment is becoming harder to treat. Anecdotally, many of the people I see have tried to quit numerous times before and often have co-morbidities such as mental health illness. The hypothesis is that tobacco control measures implemented to date have primarily helped smokers who are more able to quit and we are now left with smokers who struggle to quit despite their best intentions to do so. There is some debate in the tobacco control field as to whether this 'hardening' hypothesis is real.

This review and commentary finds that we still do not know the answer. Within specialist smoking cessation treatment services there is evidence to suggest that people are 'harder to treat' now than they were 10–20 years ago. However, there are no data to support this finding in the general population.

Reference: *Drug Alcohol Depend.* 2011 Mar 14. [Epub ahead of print]

<http://www.sciencedirect.com/science/article/pii/S0376871611000937>

Effect of compliance with nicotine gum dosing on weight gained during a quit attempt

Authors: Ferguson SG et al

Summary: These researchers examined the effect of adequate amounts of nicotine gum on weight gain in smokers during a quit attempt. A total of 103 smokers were randomised to either active (2 mg or 4 mg) or placebo gum. All were instructed to use 9–15 pieces of gum/day for the first 2 months of treatment. After 30 days of abstinence, weight gain was similar between smokers treated with active gum and those on placebo (1.1 kg vs 1.6 kg; $p=0.175$). However, active gum users who used ≥ 9 pieces/day during the first 14 days of treatment had gained less weight at follow-up (0.6 kg vs 1.6 kg for those who used < 9 pieces/day; $p=0.017$); no such benefit was seen with the placebo gum. Similarly, an analysis of weight gain involving the 2-mg and 4-mg active treatment groups found that those who used ≥ 9 pieces of gum/day had gained less weight at follow-up than those who used fewer pieces ($p=0.046$).

Comment: Weight gain is a common problem in people quitting smoking. The average weight gained in the first year of abstinence is somewhere in the vicinity of 5–7kg, and so one can understand why it puts many people off quitting. The benefits of quitting smoking still outweigh the risks associated with weight gained, however, this is usually of little consolation to people who want to quit.

The reasons for why people gain weight following smoking cessation are complex, but appear to be a combination of different factors including the removal of the appetite-suppressing effects of nicotine, a reduction in basal metabolic weight and increased caloric intake.

Whilst there are currently no easy ways to manage weight gain we can offer some basic advice. People should try and avoid eating calorie dense food (people often crave sugary foods when quitting) and increase levels of exercise. It is also known that nicotine replacement therapy (NRT) can attenuate weight gain. The results of this study confirm this, but also show that the more compliant with NRT dose the less weight was gained. Compliance with NRT is important for cessation outcome, and encouraging your patients to use it correctly and in adequate doses may also help them limit the amount of weight gained.

Reference: *Addiction.* 2011;106(3):651-6.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2010.03244.x/abstract>

Independent commentary by Dr Hayden McRobbie, Senior Lecturer in the School of Public Health and Psychosocial Studies, Auckland University of Technology and Honorary Senior Lecturer in the School of Population Health at the University of Auckland. He is also a Senior Clinical Research Fellow post within the UK Centre for Tobacco Control Studies Queen Mary University of London.

Conflict of interest statement: Dr McRobbie has received research funding from, and provided consultancy to, manufacturers of smoking cessation medications.

Research Review publications are intended for New Zealand health professionals.

How many of
your patients
smoke?

65% of smokers want
help to quit. NRT and some
brief advice can more than
double their chances.



ASK ABOUT THE
ELEPHANT

It's as simple as **ABC**...

Ask whether a patient smokes

Give **B**rief advice to quit

Offer evidence-based **C**essation support

Learn more about how to help
your patients quit

There's an e-learning tool for
health care professionals at
www.smokingcessationabc.org.nz

newzealand.govt.nz



We'll take
your business'
pulse, before
we prescribe.



bnz partners

Subscribing
to Research
Review

To subscribe or download previous
editions of Research Review
publications go to

www.researchreview.co.nz