Smoking Cessation Research Review™

RESEARCH REVIEW 10 YEARS
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Making Education Easy

Issue 22 – 2016

In this issue:

Abbreviation used in this issue
HCA = healthcare assistant
NRT = nicotine replacement therapy
OR = odds ratio

Welcome to issue 22 of Smoking Cessation Research Review.

Changing the appearance of cigarette sticks appears to further denormalise smoking and enhance the negative impact of standardised packaging, according to findings of a survey conducted with New Zealand smokers. As the study notes, the effect was particularly noticeable among older smokers, who are often more heavily addicted and resistant to change.

A large study published in the *Lancet* reports that varenicline and bupropion do not appear to increase the incidence of serious neuropsychiatric side effects compared to placebo. Moreover, varenicline was the most effective, resulting in higher abstinence rates compared with those with bupropion, nicotine patches, or placebo.

Another study in this issue reveals that tobacco quit rates and the range of therapies discussed with smokers are the same, whether the quit advice is given by a Nurse Assistant or a Registered Nurse. Nurse Assistants/Aides could feasibly deliver more care to more smokers, more cheaply and just as effectively as nurses. However, as highlighted by another study, Nurse Aides should also refer patients to services that specialise in smoking cessation, as such services have been associated with higher rates of prolonged smoking abstinence, compared with non-specialist services.

Research Review is ten!! The first ever issues of Research Review were delivered to inboxes in February 2006. Fast forward ten years and we now publish 48 regular reviews to which there are over 160,000 subscriptions. We're grateful to each and every one of you for your support and are looking forward to even bigger and better things over the coming years.

We hope you enjoy the selection in this issue, and we welcome any comments or feedback.

Kind Regards,

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Independent commentary by Dr Brent Caldwell.
Brent Caldwell was a Senior Research Fellow at Wellington Asthma Research Group, and worked on the Inhale Study. His main research interest is in identifying and testing improved smoking cessation methods, with a particular focus on clinical trials of new smoking cessation pharmacotherapies.

Independent commentary by Honorary Associate Professor Natalie Walker.
Dr Natalie Walker is an epidemiologist and leader of the Addiction Research programme at the National Institute for Health Innovation, University of Auckland. Her primary area of interest is the conduct of phase III, community-based, clinical trials, particularly in the fields of smoking cessation, alcohol consumption, and heart health. **FOR FULL BIO CLICK HERE.**

Vapers' perspectives on electronic cigarette regulation in Australia

Authors: Fraser D et al.

Summary: This Australian online survey was completed by 705 e-cigarette users recruited online, whose opinions were sought on appropriate regulation of e-cigarettes. The majority of respondents were male (71%), employed (72%), and highly educated (68% held post-school qualifications). They tended to be former heavy smokers who had stopped smoking entirely and were currently vaping. Participants generally agreed that the government should enforce minimum labelling and packaging standards and there was majority support for minimum quality standards. Most supported making e-cigarettes available for sale to anyone over the age of 18, but expressed concern about the government's motivation for regulating e-cigarettes. The respondents strongly opposed restricting sales to a medicines framework (prescription-only or pharmacy-only sales).

Comment (NW): Tobacco control experts have struggled to agree on how e-cigarettes should be regulated. Some are concerned that widespread public e-cigarette use ('vaping') will: re-normalise smoking; act as a gateway to tobacco; discourage smokers from quitting completely; and expose e-cigarettes users ('vapers') to toxicants with as yet unknown health risks. Conversely, e-cigarette proponents argue that vaping will: make smoking less acceptable; not appeal to never-smokers; facilitate quitting tobacco; and is much safer than smoking. Cautious supporters favour regulating e-cigarettes as medical devices to try to ensure the safety of vapers, whilst more liberal proponents advocate a framework based on a free market principle where e-cigarettes are able to evolve and compete with cigarettes as consumer products. Regulation is likely to continue to evolve in response to accumulating scientific evidence and/or public pressure, and will be very country-/context-specific. Surprisingly, the most important stakeholder group, vapers, have not often had their views on e-cigarette regulation documented. A key step in any business (in this case, the smoking cessation business) is to ask your customers to be part of the solution and don't view them as part of the problem. This is the first study I have seen that did consult with vapers. The study is currently being replicated in New Zealand.

Reference: Int J Drug Policy. 2015;26(6):589-94
Abstract

Effect of mailing nicotine patches on tobacco cessation among adult smokers

Authors: Cunningham JA et al.

Summary: This study recruited adult smokers across Canada by random-digit dialling of home and cell telephone numbers from 4 June 2012 through 26 June 2014. 2093 adults who smoked >10 cigarettes per day were asked if they would be interested in receiving nicotine patches by mail to quit smoking. One thousand interviewed subjects who expressed an interest in quitting were randomised to the experimental group to be mailed a 5-week supply of nicotine patches (3 weeks of 21 mg nicotine patches [step 1], 1 week of 14 mg patches [step 2], and 1 week of 7 mg patches [step 3]; n=500) or to a control group (no smoking cessation intervention; n=500). At 6 months' follow-up, self-reported abstinence rates were significantly higher among those who received the nicotine patches compared with controls (30-day abstinence: 7.6% vs 3.0%; OR 2.65; 95% CI, 1.44 to 4.89; p=0.002); biochemically validated abstinence was found in 2.8% of the patch users versus 1.0% of the control group (OR 2.85; 95% CI, 1.02 to 7.96; p=0.046).

Comment (NW): Although the findings from this trial are interesting, less than 20% of participants actually used a full 8-week course of NRT, even when it was provided to them for free and delivered to the door. We need to find new ways of encouraging smokers to use all of their allocated cessation medication, to support and maintain smoking abstinence.

Reference: JAMA Intern Med. 2016;176(2):184-90
Abstract

Dissuasive cigarette sticks: the next step in standardised ('plain') packaging?

Authors: Hoek J et al.

Summary: These researchers from the University of Otago and their Australian colleagues conducted an online survey of 313 New Zealand smokers, to examine their reactions to images of cigarette sticks that either featured printed warnings, or had unattractive colours, such as yellow-brown or green. Smokers were significantly less likely to choose the test sticks, which were rated as less appealing than the most common stick in use (a white cigarette with a brown filter tip). A 'minutes of life lost' graphic that went from one minute near the tip up to 15 near the butt had the strongest aversive effect relative to the other sticks tested.

Comment (NW): I love this study. We've been so busy focusing on the packaging of cigarette packs that we've forgotten that the actual cigarette can be used for advertising as well. Simple verbal warning messages on cigarettes and use of unattractive colours clearly have an impact, particularly the "minutes of life lost" text. I am also aware of research investigating the use of "bad smells" attached to the cigarettes, which can illicit powerful feelings of disgust.

Reference: Tob Control. 2015 Dec 16. [Epub ahead of print]
Abstract

Time spent reading this publication has been approved for CME for Royal New Zealand College of General Practitioners (RNZCGP) General Practice Educational Programme Stage 2 (GPEP2) and the Maintenance of Professional Standards (MOPS) purposes, provided that a Learning Reflection Form is completed. Please **CLICK HERE** to download your CPD MOPS Learning Reflection Form. One form per review read would be required.

Time spent reading this publication has been approved for CNE by The College of Nurses Aotearoa (NZ) for RNs and NPs. For more information on how to claim CNE hours please **CLICK HERE**.

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

Authors: Anthenelli RM et al.

Summary: This study recruited 8144 motivated-to-quit smokers aged 18–75 years, who smoked on average >10 cigarettes/day. Half (n=4116) had a history of a past or current stable psychiatric condition including a mood, anxiety, psychotic, or borderline personality disorder, and about half of this group were on psychotropic medication. The remaining participants (n=4028) did not have a psychiatric condition. The trial was designed to compare the safety and efficacy of varenicline (1 mg twice a day) and bupropion (150 mg twice a day) with that of nicotine patches (21 mg/day with taper) and placebo for 12 weeks, with a 12-week non-treatment follow-up. All participants received brief cessation counselling at each visit. The primary endpoint was the incidence of a composite measure of moderate and severe neuropsychiatric adverse events. The main efficacy endpoint was biochemically confirmed continuous abstinence for weeks 9–12. In the non-psychiatric cohort, moderate and severe neuropsychiatric adverse events were reported by 1.3% of participants in the varenicline group, 2.2% of the bupropion group, 2.5% of the nicotine patch group, and 2.4% of the placebo group. The varenicline–placebo and bupropion–placebo risk differences (RDs) for moderate and severe neuropsychiatric adverse events were −1.28 (95% CI, −2.40 to −0.15) and −0.08 (−1.37 to 1.21), respectively; the RDs for comparisons with nicotine patch were −1.07 (−2.21 to 0.08) and 0.13 (−1.19 to 1.45), respectively. In the psychiatric cohort, moderate and severe neuropsychiatric adverse events were reported by 6.5% of the varenicline group, 6.7% of the bupropion group, 5.2% of the nicotine patch group, and 4.9% of the placebo group. The varenicline–placebo and bupropion–placebo RDs were 1.59 (95% CI, −0.42 to 3.59) and 1.78 (−0.24 to 3.81), respectively; the RDs versus nicotine patch were 1.22 (−0.81 to 3.25) and 1.42 (−0.63 to 3.46), respectively. Varenicline-treated participants achieved higher abstinence rates than those on placebo (OR 3.61; 95% CI, 3.07 to 4.24), nicotine patch (1.68; 1.46 to 1.93), and bupropion (1.75; 1.52 to 2.01). Bupropion and nicotine patch were associated with higher abstinence rates as compared with placebo (OR 2.07; 95% CI, 1.75 to 2.45 and 2.15; 1.82 to 2.54, respectively). Across cohorts, the most frequent adverse events by treatment group were nausea (varenicline, 25%), insomnia (bupropion, 12%), abnormal dreams (nicotine patch, 12%), and headache (placebo, 10%). Efficacy treatment comparison did not differ by cohort.

Comment (NW): Whilst varenicline and buproprion have proven to be highly effective smoking cessation treatments, there have been on-going safety concerns about these medications, particularly related to suicidal ideation and aggression. The FDA requested that Pfizer and GSK come together to undertake this phase 4 trial, involving over 8000 participants (~4000 in a non-psychiatric cohort, and ~4000 in a psychiatric cohort) from around the world - including 125 from the Rotorua region in New Zealand. The findings that varenicline and buproprion can be used "safely by psychiatrically-stable smokers" appear generalisable across cultures and are the first to show the "comparative efficacy between the three main pharmaceutical treatments" for smoking cessation. No doubt the FDA will review its current box warning around varenicline in light of these findings.

Reference: Lancet. 2016 Apr 22. [Epub ahead of print]
Abstract

Effectiveness of short message service text-based smoking cessation intervention among university students: a randomized clinical trial

Authors: Müssener U et al.

Summary: All college and university students throughout Sweden were invited by email between October 2014 and April 2015 to participate in this trial, which enrolled 1590 daily or weekly smokers, aged mainly between 21 and 30 years. Participants were randomised to either the intervention arm (n=827) or control group (n=763). The intervention included a 1- to 4-week motivational phase during which the participants set their quit date. This group then received 157 text messages based on components of effective smoking cessations over a 12-week period. The control group received 1 text every 2 weeks thanking them for participating in the study, with delayed access to the intervention. The primary outcomes of interest were self-reported abstinence from smoking defined as ≤5 cigarettes over the past 8 weeks and a 4-week point prevalence of complete smoking cessation (approximately 4 months after the quit date). Primary outcome data were available for 783 (94.7%) of the intervention group and 719 (94.2%) of the control group. At baseline, participants were smoking a median of 63 cigarettes per week in the intervention group and 70 cigarettes per week in the control group. Eight-week prolonged abstinence was reported by 203 participants (25.9%) in the intervention group and 105 (14.6%) in the control group. Complete cessation for 4 weeks was reported by 161 (20.6%) participants in the intervention group and 102 (14.2%) participants in the control group, at a mean 3.9 months after the quit date. The adjusted odds ratios for these findings were 2.05 (95% CI, 1.57 to 2.67) and 1.56 (95% CI, 1.19 to 2.05), respectively.

Comment (BC): What remarkably high retention rates this study had (>94%), and what a huge effect size of 2.05 for the text messages, particularly considering that the subjects were university students and mostly in their 20s or younger! The NZ Quitline had great success with its Txt2Quit service. I suggest that we should specifically mention Txt2Quit to smokers when we refer them to Quitline. Hopefully, the new telehealth company maintains Txt2Quit and invests in it to keep the messages fresh and in line with up to date evidence-based strategies.

Reference: JAMA Intern Med. 2016;176(3):321-8
Abstract

Nicotine delivery, retention and pharmacokinetics from various electronic cigarettes

Authors: St Helen G et al.

Summary: Thirteen healthy, experienced adult e-cigarette users (6 females and 7 males) recruited over the internet participated in this 1-day research ward study, which measured the systemic retention of nicotine, propylene glycol and vegetable glycerin. It also assessed the abuse liability of e-cigarettes by characterising nicotine pharmacokinetics. Participants inhaled 15 puffs from their usual brand of e-cigarette. Exhaled breath was trapped in gas-washing bottles and blood was sampled before and several times after use. E-cigarettes delivered an average of 1.33 mg and 93.8% of the inhaled dose was systemically retained. Average maximum plasma nicotine concentration (C_{max}) was 8.4 ng/mL and time of maximal concentration (T_{max}) was 2–5 minutes. In 1 participant who had T_{max} of 30 minutes, 84.4% of vegetable glycerin and 91.7% of propylene glycol was systemically retained. Heart rate increased by an average of 8.0 beats per minute after 5 minutes. Study participants reported reductions in withdrawal symptoms and a decrease in the urge to smoke. They described the e-cigarettes as satisfying.

Comment (BC): It is encouraging to learn from this trial that experienced e-cig users are able to achieve a similar rapid delivery of nicotine as smoking tobacco does, albeit at lower doses. It stands to reason that unless a NRT is as rewarding, and therefore as addictive, as smoking, smokers are unlikely to use it frequently enough to help them quit. Adherence to NRT is a big problem, perhaps the rewarding nature of e-cigs may assist with this? It certainly must be the reason why e-cig users promote the use of e-cigs to other smokers: I've heard of vape festivals but never heard of nicotine patch festivals.

Reference: Addiction. 2016;111(3):535-44
Abstract

Is nicotine replacement therapy overvalued in smoking cessation? Analysis of smokers' and quitters' communication in social media

Authors: Kurko T et al.

Summary: This qualitative study explored the content of smokers' and quitters' postings (n=24,481) from 5 discussion areas during 2007–2012 in the Finnish national Internet-based discussion forum (STUMPPI). The analysis sought to understand how discussion forum participants value NRT in smoking cessation. Three major themes emerged: distrust and a negative attitude towards NRT; neutral acceptance of NRT as a useful smoking cessation method; and trust in the crucial role of NRT and other smoking cessation medicines. The negative attitude was related to the following perceptions: NRT use maintains tobacco dependence, fear of NRT dependence or experience of not gaining help from NRT use. NRT was perceived to be useful particularly in the initiation of smoking cessation attempts and in dealing with physiological dependence. The discussions highlighted that successful quitting relied upon the quitters' own psychological empowerment and peer support from the discussion community.

Comment (BC): Many of you probably share my frustration with smokers not using NRT, or not using it often enough or for long enough. Analysis of Finland's Quit Blogs confirms what has been found in many countries, that the majority of smokers are very misinformed about NRT and this prevents them from using it effectively. How can we disabuse smokers of their misconceptions, how can we argue against irrational ideas like smokers who do not use NRT because they are scared of becoming addicted to it, even though long-term use of NRT is relatively safe, and by not using NRT they are more likely to remain addicted to smoking which has a 50% mortality rate?

Reference: Health Expect. 2015;18(6):2962-77
Abstract

Are nurses and auxiliary healthcare workers equally effective in delivering smoking cessation support in primary care?

Authors: Faulkner K et al.

Summary: This study used data from the iQuit in Practice trial to examine differences in the delivery and receipt of smoking cessation treatment and short- and long-term smoking abstinence rates between the two main types of community Smoking Cessation Advisors (SCAs) in England: practice nurses and healthcare assistants (HCAs). A total of 313 participants saw a HCA at their initial appointment, while 289 participants saw a nurse. The primary outcome measure was self-reported 2-week point prevalence abstinence at 8 weeks of follow-up. There were no statistically significant differences in abstinence for support delivered by HCAs versus nurses at 8 weeks (HCAs 42.8%, nurses 42.6%; unadjusted OR 1.01; 95% CI, 0.73 to 1.40), or at 4 weeks or 6 months of follow-up. There were no statistically significant differences in advice delivered, the types of pharmacotherapies prescribed or in any aspect of patient satisfaction by SCA type. Compared with nurses, HCA consultations lasted longer on average (HCAs 23.6 minutes, nurses 20.8 minutes; p=0.002), involved more interim contacts (HCAs median 2, nurses median 1; p<0.001) and contact was more likely to be face-to-face than by phone call (HCAs 91.2%, nurses 70.9%; OR 4.23; 95% CI, 2.86 to 6.26).

Comment (BC): This is a very reassuring finding that quit rates, and even the range of therapies recommended to smokers were the same whether the quit advice was delivered by a Nurse Assistant or a Registered Nurse. Training Nurse Assistants/ Aides to deliver ABC would help PHOs deliver more care to more smokers, more cheaply but as effectively as nurses. However, Nurse Aides should also refer patients to services that specialise in smoking cessation (see the following article by Song and colleagues in this issue).

Reference: Nicotine Tob Res. 2016;18(5):1054-60
Abstract

Differences in longer-term smoking abstinence after treatment by specialist or nonspecialist advisors: secondary analysis of data from a relapse prevention trial

Authors: Song F et al.

Summary: The subjects in this study had previously participated in a trial of self-help material for smoking relapse prevention. They had stopped smoking, as verified by carbon monoxide reading, at 4 weeks after the quit date, after receiving cessation support from stop smoking services: 1088 people had attended specialist stop smoking clinics and 316 had used non-specialist cessation services (such as general practice, pharmacies, and health trainer services). This study compared the difference in prolonged smoking abstinence from months 4 to 12 between specialist and non-specialist services. The proportion of continuous abstinence from 4 to 12 months was higher in short-term quitters from specialist services compared with those from non-specialist services (39% vs 32%; p=0.023). In multivariable logistic regression analyses adjusting for a range of participant characteristics (including demographic, socioeconomic, and smoking history variables), the specialist service was significantly associated with a higher rate of longer-term smoking abstinence (OR 1.48; 95% CI, 1.09% to 2.00%; p=0.011).

Comment (BC): Although ABC should be the job of all health care workers, including allied professionals and assistants, evidence from this trial (? and common sense) demonstrates that unless a healthcare worker is mainly involved in giving smoking cessation care, their care is likely to be less effective, and therefore it is essential for non-specialist workers to refer patients to a specialist service after providing ABC. Specialisation and division of labour were central to the development of civilisation; hopefully the new telehealth provider will maintain specialist staff in their employ.

Reference: Nicotine Tob Res. 2016;18(5):1061-6
Abstract

Disclosure Statement: Natalie Walker has provided consultancy to the manufacturers of smoking cessation medications, received honoraria for speaking at a research meeting and received benefits in kind and travel support from a manufacturer of smoking cessation medications. Natalie has also undertaken two trials of very low nicotine content cigarettes, which were purchased from two different tobacco companies. The companies concerned had no role in development of the study design, data collection, data analysis, data interpretation, or writing of the trial publications.

USING RESEARCH REVIEW ABSTRACTS FOR CNE POINTS

Time spent reading this publication has been approved for Continuing Nursing Education (CNE) by The College of Nurses Aotearoa (NZ) for RNs and NPs. All you have to do is to have a record of the activity and a few sentences about what you learnt and how this impacts your practice as a RN & NP on the CNE Template. **Available by clicking HERE.**

We have used some of the recent Diabetes & Obesity Research Review abstracts as examples to show how you can easily record such activity if you would like this to contribute to your requirement for CNE. This example template can be used as a guide for completing the reflection form across all Research Reviews.

See the College of Nurses website for more information on Continuing Nursing Education (CNE) http://www.nurse.org.nz/continuing-nursing-education-cne-template.html

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This template is designed as a permanent record of a continuing nursing education (CNE) or professional development activity. Complete one template for each research review.

Name: **Practice area:**

Details of the research review chosen for this activity:

Diabetes & Obesity Research Review Issue 104

Key points from the review:

- Need to encourage all adolescents to exercise regularly due to long-term risk of obesity and lack of fitness & CV risk later in life.
- Reducing weight gain (even modest weight loss) in high-risk individuals (including rural women) does reduce rates of type 2 diabetes.
- Structured self-management education programmes are an important part of a quality diabetes service and help to reduce emergency diabetes-related incidences.

Application to my practice:

Making time to work with people towards manageable, realistic and incremental lifestyle adjustments has considerable benefits in terms of managing diabetes and reducing CV risk.

Length of time given to each review: 30 minutes

For CNE purposes allow 30 minutes per Research Review publication for reflective reading and follow-up.