

Smoking Cessation Research Review™

Making Education Easy

Issue 13 – 2014

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Welcome to the first issue of Smoking Cessation Research Review for 2014.

The first paper that we discuss in this issue reports outcomes from a national-based survey undertaken in New Zealand that explored the smoking behaviours and attitudes to smoking cessation among Māori nurses and other health workers. Interestingly, the analysis found that while Māori nurses see the value in smoking cessation for improving their own and other's health, many did not consider themselves to be effective with smoking prevention and cessation. This suggests some further research into beliefs and attitudes around smoking behaviours would be worthwhile.

Another study advises health professionals to pay attention to mulling, the practice of adding tobacco to cannabis for its consumption. This study found that mulling results in urinary cotinine levels high enough to indicate a significant exposure to nicotine, which the study authors conclude is likely to influence cannabis and cigarette use as well as the efficacy of cessation interventions.

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

Kind Regards,
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Māori nurses and smoking: what do we know?

Authors: Gifford H et al.

Summary: Outcomes are reported from an analysis of a national web-based survey that explored the smoking behaviours and attitudes to smoking cessation held by 410 Māori registered and student nurses, as well as other health workers in New Zealand. The overall prevalence rate for smoking was 21.5% – 32% for Māori nursing students and 20% for Māori nurses. Among smokers, 75% of nurses smoke <10 cigarettes per day, 84% smoked outside their homes, and almost 20% indicated they were considering quitting within the next month. The majority who had attempted to, or had, quit did not use the range of smoking cessation interventions available. Māori nurses see the value in smoking cessation for improving their own and other's health, although many did not necessarily see themselves as effective in supporting Māori with smoking prevention and cessation.

Comment (NW): It is disappointing to see in this study the high proportion of student nurses that smoke, despite the apparent improvement in smoking cessation content taught at Schools of Nursing in NZ.¹ Health professionals of all types and at all stages of their careers have great power to influence other people's behaviour and must therefore be the very best role models they can. With new census data slowly being released, and the publication of this report, it would be opportune to update the "Smoking and Nurses in New Zealand" report commissioned by ASH NZ, and available here: http://www.ash.org.nz/wp-content/uploads/2013/01/Research_commissioned_by_ASH/Smoking_and_Nurses_in_New_Zealand.pdf

1. <http://smokefree.org.nz/sites/default/files/112%20Claire%20Doole.pdf>

Reference: *N Z Med J. 2013;126(1384):53-63.*

[Abstract](#)

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Randomized trial of nicotine replacement therapy (NRT), bupropion and NRT plus bupropion for smoking cessation: effectiveness in clinical practice

Authors: Stapleton J et al.

Summary: Outcomes are reported from this open-label trial conducted at 4 UK National Health Service smoking cessation clinics involving 1071 smokers, who participated in 7 weekly behavioural support sessions before being randomised to a nicotine replacement therapy (NRT) product of their choice (n=418), bupropion (n=409), or NRT plus bupropion (n=244). All participants were followed-up for 6 months. Abstinence rates, as determined by biochemical verification at 1 and 6 months, did not differ significantly between bupropion and NRT (27.9% vs 24.2%; odds ratio [OR] 1.21; 95% CI 0.883 to 1.67), and the combination rate (24.2%) was similar to that for either treatment alone. The relative effectiveness of bupropion and NRT appeared to differ according to depression ($\chi^2=2.86$; $p=0.091$); subjects with a history of depression gained more benefit with bupropion versus NRT (29.8% vs 18.5%). Several unwanted symptoms were more common reported with bupropion.

Comment (NW): This trial was included in the recently updated Cochrane review on the use of antidepressants for smoking cessation (90 trials, including 66 of bupropion). The review reported that “the mode of action of bupropion and nortriptyline is independent of their antidepressant effect and that they are of similar efficacy to nicotine replacement”. Furthermore, “adverse events with either medication appear to rarely be serious or lead to stopping medication”. See here for more details: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD000031.pub4/abstract>

Reference: *Addiction*. 2013;108(12):2193-201.

[Abstract](#)

To what extent does adding tobacco to cannabis expose young users to nicotine?

Authors: Bélanger RE et al.

Summary: This group of researchers examined whether the process of mulling, in which tobacco is added to cannabis for its consumption, exposes young cannabis users to significant levels of nicotine. The study recruited 197 Swiss youths aged 16–25 years, who completed a self-administered questionnaire and gave a urine sample on the same day. The participants were divided into 3 groups based on their consumption profile over the previous 5 days: 70 abstainers who had not used cigarettes or cannabis, 57 cannabis users adding tobacco to the cannabis they smoke (MUL) but not having smoked cigarettes, and 70 cigarette smokers (CIG) not having smoked cannabis. Urinary cotinine was measured by liquid chromatography coupled with mass spectrometry. The abstainers had the lowest level of exposure to nicotine, with a mean cotinine level of 3.2 ng/mL, which was significantly lower than levels found in the MUL and CIG cohorts (214.6 and 397.9, respectively; both comparisons $p<0.001$). In multivariate analysis, consumption profile appeared to be the only significant factor of influence when examining nicotine exposure in the abstainers and MUL cohorts, but it did not result in substantial differences between the MUL and CIG cohorts.

Comment (NW): There appears to be no New Zealand data on the practice of mulling, although the Health Promotion Agency have informed me that they will be asking about it in the next “Health and Lifestyle” survey (results available late 2014). The influence of this practice on smoking prevalence needs to be considered – some people may practice mulling but consider themselves to be smokefree as they don’t actually smoke tobacco cigarettes. Exposure to inhaled smoke, of any kind, can cause harm. Some points to note: Cannabis use in those aged 16–64 years is 13.4%, the ninth highest in the world. The NZ Drug Foundation informs me that a ‘tinny’ of cannabis is a similar price to loose tobacco. I wonder what will happen when tobacco becomes more expensive than cannabis?

Reference: *Nicotine Tob Res*. 2013;15(11):1832-8.

[Abstract](#)

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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.

Research Review publications are intended for New Zealand health professionals.

‘The times are changing’: New Zealand smokers’ perceptions of the tobacco endgame

Authors: Maubach N et al.

Summary: This New Zealand study held 47 in-depth interviews with 4 priority groups: Māori, Pacific, young adults and pregnant women, all of whom were smokers or very recent quitters. The majority expressed strong support for the New Zealand government’s goal of achieving a smoke-free society by 2025. They recognised the broader social good that would result and accepted the personal inconvenience of quitting. Nevertheless, they wanted to retain control over when and how they would quit and asserted their ‘freedom’ to smoke. Participants identified interventions that would extend current policy and maintain the autonomy they valued; thematic analysis classified these into 4 themes: restricting supply, diminishing visibility, decreasing availability and affordability, and increasing quit support.

Comment (BC): Bearing in mind that the authors interviewed a fairly small sample of people, it is encouraging that the majority supported the smoke-free vision. Healthcare workers might be able to use the topic of the smoke-free vision as an opportunity to start a discussion about quitting smoking with their patients. This study highlights the value of face-to-face support, and the need for smokers to feel their autonomy is maintained. Healthcare workers may try to harness smokers’ desire for autonomy by pointing out that their addiction denies them autonomy, and they can use nicotine replacement therapies to help them regain their ability to choose not to smoke.

Reference: *Tob Control*. 2013;22(6):395-400.

[Abstract](#)

Smoking Cessation Research Review

Independent commentary by Brent Caldwell.

Brent Caldwell is a Senior Research Fellow at Wellington Asthma Research Group, he is currently working on the Inhale Study.



For full bio [CLICK HERE](#).

Independent commentary by Dr 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.



For full bio [CLICK HERE](#).

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.

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Smoking cessation in the first trimester reduces most obstetric risks, but not the risks of major congenital anomalies and admission to neonatal care: a population-based cohort study of 1 164 953 singleton pregnancies in Finland

Authors: Räisänen S et al.

Summary: Data were retrospectively analysed from the Finnish Medical Birth Register for all singleton births between 1991 and 2010 (n=1,164,953). Of all mothers, 82.3% were non-smokers, 2.6% quit smoking during the first trimester of pregnancy, 12.5% smoked throughout pregnancy and 2.7% had no information on smoking. Infants whose mothers continued to smoke after the first trimester of the pregnancy were more likely to be admitted to a neonatal intensive care unit, be stillborn, preterm (<37 gestational weeks), have a low birth weight (LBW, <2500 g), be small for gestational age (SGA, <-2 SDs) and have a major congenital anomaly compared with infants born to non-smokers. Smoking cessation reduced the risk of prematurity, stillbirth, LBW and SGA close to or at similar levels as those of non-smokers. However, infants exposed to tobacco in early pregnancy were 19% more likely to be admitted to the neonatal intensive care unit and 22% more likely to develop a major congenital anomaly, compared with infants born from non-smoking mothers.

Comment (NW): The reasons why 'pregnant women that smoke' are a priority population in New Zealand is highlighted by the findings from this large, well-designed study. Those women who smoke during pregnancy are exposing their unborn child to significant and long-term health risks, even those mothers that quit in the first trimester. When you are talking to women who are of child-bearing age and smoke, remember to advise them that they need to stop smoking prior to conception if they are planning on having children.

Reference: *J Epidemiol Community Health.* 2014;68(2):159-64.

[Abstract](#)

Tobacco smoking cessation and improved gastroesophageal reflux: a prospective population-based cohort study: the HUNT study

Authors: Ness-Jensen E et al

Summary: These researchers investigated whether tobacco smoking cessation improves gastro-oesophageal reflux symptoms (GERS), in a cohort of 29,610 adults (aged ≥20 years) residing in Nord-Trøndelag County, Norway, who reported whether they had heartburn or acid regurgitation. In logistic regression analysis, among individuals using anti-reflux medication at least weekly, cessation of daily tobacco smoking was associated with improvement in GERS from severe to no or minor complaints (adjusted OR 1.78; 95% CI 1.07 to 2.97), compared with persistent daily smoking. This association was only seen among individuals of normal BMI (OR 5.67; 95% CI 1.36 to 23.64), not among overweight individuals. There was no association between tobacco smoking cessation and GERS status among individuals with minor GERS or individuals using anti-reflux medication less than weekly.

Comment (BC): The opportunity to improve gastro-oesophageal reflux by quitting smoking could be a good "teachable moment" for smokers with a normal BMI whose reflux is severe enough that they need to use anti-reflux medications at least weekly. These smokers should be offered non-orally absorbed NRTs that are less likely to exacerbate gastrointestinal symptoms, such as nicotine patch or e-cigs, or be given varenicline or bupropion. Overweight smokers with reflux could be encouraged to both lose weight and quit smoking by wearing nicotine patches, because nicotine suppresses appetite – double-patch therapy might be required for obese heavy smokers.

Reference: *Am J Gastroenterol.* 2013 Dec 10. [Epub ahead of print]

[Abstract](#)

Internet-based photoaging within Australian pharmacies to promote smoking cessation

Authors: Burford O et al.

Summary: These researchers tested the efficacy and cost-effectiveness of an intervention based on personalised, vivid illustrations of "smoker's face" to promote smoking cessation among young adult smokers (aged 18–30 years). Of 160 enrolled subjects, 80 were allocated to the control group and 80 to the intervention group. All were recruited from 8 metropolitan community pharmacies located around Perth city centre in Western Australia and all of them received standardised smoking cessation advice. The intervention group participants were also photographed and their images were digitally aged by the Internet-based APRIL Face Aging software as both a lifelong smoker and as a nonsmoker. The digitally aged photograph was sent to their email address within 24 hours of the intervention. At 6 months' follow-up, 5 controls (6.3%) claimed to have quit smoking, but only 1 of them consented to biochemical validation and confirmed nonsmoking status by breath carbon monoxide levels, compared with 11 participants in the intervention group confirmed to be nonsmokers (p=0.003). The Fagerström smoking dependence score was significantly decreased from baseline at 6-month follow-up among participants in the intervention group (p=0.002); the change in mean scores over the entire study was significantly different between the intervention and control groups (p<0.001). These differences remained statistically significant after adjustment for small between-group differences in gender distribution and nicotine dependence. The mean cost of implementing the intervention was estimated at \$AU5.79 per participant and the incremental cost-effectiveness ratio was \$AU46 per additional quitter. The mean cost that participants indicated they were willing to pay for the digital ageing service was \$AU20.25.

Comment (NW): Community pharmacists in New Zealand, the health professional seen most often by adults, are increasingly becoming involved in screening for health conditions and delivery of brief interventions. This trial is one of only two to look at the effect of photoaging on smoking cessation. Given the favourable results, further research in the area seems to be justified; e.g. would photoaging programmes accessed over the internet from home have the same effect on smokers' behaviour? See here for the Cochrane review looking at giving smokers feedback on the physical effects of smoking as a way of encouraging smokers to quit: <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004705.pub4/full>

Reference: *J Med Internet Res.* 2013;15(3):e64.

[Abstract](#)

Electronic cigarettes for smoking cessation: a randomised controlled trial

Authors: Bullen C et al.

Summary: This Auckland-based group of researchers investigated whether electronic cigarettes (e-cigarettes) are more effective than nicotine patches at helping smokers to quit. A cohort of 657 adult smokers aged ≥18 years wanting to quit were randomised (stratified by ethnicity [Māori; Pacific; or non-Māori, non-Pacific], sex [men or women], and level of nicotine dependence [>5 or ≤5 Fagerström test for nicotine dependence]) to 16 mg nicotine e-cigarettes (n=289), nicotine patches (21 mg patch, one daily; n=295), or placebo e-cigarettes (no nicotine; n=73), from 1 week before until 12 weeks after quit day, with low intensity behavioural support via voluntary telephone counselling. At 6 months, rates of biochemically verified continuous abstinence (exhaled breath carbon monoxide measurement <10 ppm) were 7.3% (n=21) with nicotine e-cigarettes, 5.8% (n=17) with patches, and 4.1% (n=3) with placebo e-cigarettes (risk difference for nicotine e-cigarette vs patches 1.51 [95% CI -2.49 to 5.51]; for nicotine e-cigarettes vs placebo e-cigarettes 3.16 [95% CI -2.29 to 8.61]). Adverse events did not differ significantly between the groups, with 137 events in the nicotine e-cigarettes group, 119 events in the patches group, and 36 events in the placebo e-cigarettes group. There was no evidence of an association between adverse events and study product.

Comment (BC): The low rates of abstinence in this study really emphasise the importance of giving smokers much more support than just supplying them with NRT and telephone support. Had the quit rates been higher, then nicotine e-cigarettes would have probably had a statistically significantly higher quit rate than the placebo and patch. It is essential to schedule regular contact with smokers (preferably face-to-face) and teach them how to use NRTs in a way that maximises their positive effects and minimises side effects (e.g. electronic cigarettes must be puffed extremely regularly to create particles small enough to reach the lung). NRTs are often aversive, and smokers need lots of encouragement to use them regularly enough to develop tolerance to their aversive effects. Until smokers become tolerant to NRTs' aversive side effects, they are unlikely to use NRT often enough to gain their therapeutic effects.

Reference: *Lancet.* 2013;382(9905):1629-37.

[Abstract](#)

The Gold Standard Programme: smoking cessation interventions for disadvantaged smokers are effective in a real-life setting

Authors: Neumann T et al.

Summary: This research used data from Denmark's national Smoking Cessation Database to evaluate the real-life effect of an evidence-based Gold Standard Programme (GSP) for smoking cessation interventions in disadvantaged patients (defined as patients with a lower level of education and those receiving unemployment benefits) and to identify modifiable factors that consistently produce the highest abstinence rates. The GSP has been the standard intervention in Denmark since 2001 and consists of 6-week manualised smoking cessation interventions performed by certified staff. The primary outcome was continuous abstinence, defined as not smoking at all from the end of the programme to the 6-month follow-up, as reported in a telephone interview after 6 months \pm 1 month. The analysis at 6 months for continuous abstinence included both the 16,377 responders and 4211 non-responders (20,588 smokers in total). Overall, 34% (5503 of 16,377 patients) reported 6 months of continuous abstinence (the rate reduced to 27% when all non-responders were considered to be smokers). Continuous abstinence was lower in 5738 smokers with a lower educational level (30% of responders and 23% of all) and in 840 unemployed (27% of responders and 19% of all). In respect to modifiable factors, continuous abstinence was found more often after programmes in one-on-one formats (vs group formats) among patients with a lower educational level, 34% (vs 25%; $p=0.037$), or among unemployed, 35% (vs 24%; $p=0.099$). The variable 'format' stayed in the final model of multivariable analyses in patients with a lower educational level (OR 1.31; 95% CI 1.05 to 1.63).

Comment (BC): This intensive programme achieved remarkably high 6-month abstinence rates, even among unemployed smokers with low education, of whom 16% were abstinent. In a New Zealand study, only 5.8% of smokers who received nicotine patches with Quitline support were abstinent at 6 months. We could improve quit rates by trying to increase compliance, and provide face-to-face support in group or individual formats depending on education level. Although it would be expensive to do this, the results would be worth it.

Reference: *Tob Control. 2013;22(6):e9.*

[Abstract](#)

Do e-cigarettes have the potential to compete with conventional cigarettes?: A survey of conventional cigarette smokers' experiences with e-cigarettes

Authors: Kralikova E et al.

Summary: This European study sought to determine the proportion of smokers who try e-cigarettes and become regular users. A total of 2012 people seen smoking or buying cigarettes in the Czech Republic were approached to answer questions about smoking; 1738 smokers participated in the interview and discussed their experience with e-cigarettes. Half of the respondents reported trying e-cigarettes at least once. Among those who tried e-cigarettes, 18.3% said they used them regularly, and 14% used them daily. On average, regular users used e-cigarettes daily for 7.1 months. The most commonly cited reason for using e-cigarettes was to reduce consumption of conventional cigarettes; 60% of regular e-cigarette users reported that e-cigarettes helped them to achieve this. Being older and having a more favourable initial experience with e-cigarettes explained 19% of the variance in progressing to regular e-cigarette use.

Comment (BC): Although e-cigs can help smokers to quit smoking, it is possible that smokers will simply use e-cigs to reduce their withdrawal discomfort in smoke-free areas, which might reduce their motivation to quit smoking, and thereby undermine the positive effect that smoke-free areas have on motivating quitting. This survey allays this concern somewhat because, although a quarter of e-cig users used them to cope with smoke-free areas, just as many used them to try to quit smoking. Like with all NRTs, smokers who had positive first impressions of e-cigs were more likely to become daily users. It is really important to ensure that smokers enjoy NRT when they first try it, by letting them know how to use it in a way that maximises its positive effects and minimises its side effects.

Reference: *Chest. 2013;144(5):1609-14.*

[Abstract](#)



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