Smoking Cessation Research Review™

Making Education Easy

Issue 2 – 2011

In this issue:

Welcome to the second edition of Smoking Cessation Research Review.

It is well known that smokers are at greater risk of postoperative complications (e.g., delayed wound healing, pulmonary complications, mortality) compared with nonsmokers and many clinicians believe that stopping smoking within a few weeks before surgery raises the risk of postoperative pulmonary complications (by removing the cough-promoting effect of smoking). However, the results of the first study that we discuss in this issue of Smoking Cessation Research Review make clear that smoking cessation before surgery does not increase the risk of postoperative complications. It is highly appropriate to encourage smokers to quit before surgery.

Amongst the other topics that we discuss in this edition is an investigation into the beliefs that smokers hold toward nicotine replacement therapy (NRT) safety, and how these attitudes affect the use of NRT. The more we know about how smokers' attitudes inform use (or non-use) of NRT, the better we are able to allay any misguided concerns about its safety – and thereby support its use among smokers.

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

Kind regards,

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Stopping smoking shortly before surgery and postoperative complications: a systematic review and meta-analysis

Authors: Myers K et al

Summary: This systematic review and meta-analysis evaluated data from smoking studies that compared postoperative complications in patients undergoing any type of surgery who stopped smoking within 8 weeks prior to surgery and those who continued to smoke. The aim was to provide an evidence-based recommendation for front-line staff. Of the 9 studies that met the inclusion criteria, one identified a beneficial effect of recent quitting compared with continuing smoking; none noted any detrimental effects. In meta-analyses, quitting smoking within 8 weeks before surgery neither increased or decreased overall postoperative complications for all available studies (relative risk [RR], 0.78; 95% CI, 0.57 to 1.07), for a group of 3 studies with high-quality scores (RR, 0.57; 95% CI, 0.16 to 2.01), or for a group of 4 studies that specifically evaluated pulmonary complications (RR, 1.18; 95% CI, 0.95 to 1.46).

Comment: Smokers are at particular risk of postoperative complications (POCs) that include delayed wound and bone healing, wound infection, and cardio-pulmonary complications. There is good evidence to show that stopping smoking prior to surgery significantly reduces the risk of POCs. Existing data indicate that the longer the period of abstinence the better the outcome. However, there has been concern that stopping smoking only a few weeks prior to surgery might be detrimental. Studies that were able to compare the postoperative outcomes in never smokers, people who stopped at least 8 weeks before surgery, and recent quitters (stopped within 8 weeks of surgery), found that the recent quitters had a greater risk of POCs. However, the key question that needs to be asked is what is the risk of POCs in recent quitters compared to continuing smokers. This systematic review found no evidence of an increased risk of POCs among recent quitters. One of the large studies included in the meta-analysis actually showed a decreased risk of POCs among recent quitters. For the best outcomes, people should be supported to stop smoking as early as possible prior to surgery, but health professionals can be confident in advising smokers to quit at any time prior to surgery.

Reference: Arch Intern Med. 2011 Mar 14. [Epub ahead of print]

http://archinte.ama-assn.org/cgi/content/abstract/archinternmed.2011.97v1

Perceived safety of nicotine and the use of nicotine replacement products among current smokers in Great Britain: results from two national surveys

Authors: Bobak A et al

Summary: These researchers explored beliefs held by smokers toward nicotine replacement therapy (NRT) safety, and how these attitudes affect the use of NRT, using data collated from two large face-to-face surveys of current smokers in Great Britain in 2004 (n=605) and 2006 (n=1,434). The survey questions concerned the safety of nicotine and NRT products, smokers' past experience with NRT and anticipated future use. When findings from both surveys were combined, approximately two thirds of smokers believed that, or were unsure whether, NRT was as harmful as cigarette smoking. In addition, smokers with safety misconceptions admitted to being less likely to want to quit in the future (63% vs 73%; p<0.001), while those who were interested in quitting were less likely to report an intention to use NRT during their next quit attempt.

Comment: Many people who smoke worry about the safety of nicotine replacement therapy (NRT). One such concern is the incorrect belief that nicotine is the main component in tobacco smoke responsible for smoking-related disease. These study data suggest that safety concerns about nicotine remain a barrier to using NRT and add to existing data that show smokers with safety concerns are more likely to under-use NRT products, or not use them at all. Whilst NRT is no silver bullet for smoking cessation there is good evidence that it increases the likelihood of long-term abstinence. Nicotine patches, gum and lozenges are fully subsidised in New Zealand. When prescribing these products for people who want to quit smoking it is important to provide some advice on correct use, reassure them that NRT is safe for smokers, and address some of the unrealistic expectations that people often hold (e.g. they are no magic cure; they are not like smoking and work primarily by reducing the symptoms of tobacco withdrawal). The Ministry of Health has produced a video resource, available on YouTube for people who smoke, which gives some simple messages on how to use NRT (see http://www.youtube.com/watch?v=vo_oNWpFqvk).

Reference: J Smoking Cessation. 2010;5(2):114-22.

http://www.atypon-link.com/AAP/doi/abs/10.1375/jsc.5.2.115

Evaluation of a nationally disseminated self-help intervention for smoking cessation ('Quit Kit')

Authors: Ussher M et al

Summary: This UK-based study assessed the extent of uptake and impact of a nationally disseminated self-help intervention for smoking cessation ('Quit Kit'), containing practical tools for supporting quit attempts. A total of 480,000 individuals received the kit; 2,347 randomly selected individuals were interviewed by telephone about how this kit had affected their smoking behaviours, they felt about the intervention and attitudes toward health service support. The majority of interviewees (61%) maintained the kit was helpful for stopping smoking and as many as 84% agreed that, having received the kit, they would be more likely to consider the National Health Service for help with quitting. Younger interviewees were significantly more likely to report the kit as helpful, to say they would recommend it to others and to agree that it increased their confidence in quitting (all p≤0.001). The kit had influenced 29%, 17% and 11% of interviewees, respectively, to visit their doctor, pharmacist or stop-smoking service for help with quitting. Apparently, the kit triggered a quit attempt in 57% of recipients. Notably, when analyses were limited to those who had received the kit at least 1 month prior to interview, 26.5% (126/475) of those attempting to quit remained completely abstinent from smoking for at least a month.

Comment: There is evidence to show that self-help resources can assist people in quitting smoking. However, the effect size is small. The UK NHS Stop Smoking Service produced a 'Quit Kit' for people who are interested in stopping smoking. This kit contains resources such as a quit plan, 'will power assessor', 'stress buster' and other motivational resources (see http://smokefree.nhs.uk/quit-tools/quit-kit/). The results of this survey are encouraging. Not only did people find the kit useful, it increased motivation and confidence to quit, and prompted people to seek assistance and give quitting a go. Although abstinence rates were self-reported and only from a sub-sample, the short-term quit rates (27%) are good for such a simple intervention.

Reference: Tob Control. 2011 Mar 17. [Epub ahead of print]

http://tobaccocontrol.bmj.com/content/early/2011/03/16/tc.2010.040535.abstract

Strong smoker interest in 'setting an example to children' by quitting: national survey data

Authors: Thomson G et al

Summary: These researchers explored national survey data comprising a cohort of 1,376 New Zealand adult smokers aged ≥18 years who participated in the multi-country International Tobacco Control Project in 2007/08. This sample included boosted sampling of Māori, Pacific and Asian New Zealanders. They were asked about their reasons for quitting smoking. Over half (51%) cited 'Setting an example to children' as 'very much' a reason to quit, compared to 45% who reported quitting for personal health concerns. However, when 'very much' and 'somewhat' responses were combined, personal health was cited more often (81%) than 'setting an example to children' (74%). Price was the third ranked reason (67%). In a multivariate analysis, women were significantly more likely to state that 'setting an example to children' was 'very much' or 'somewhat' a reason to quit; as were Māori, or Pacific compared to European; and those suffering financial stress.

Comment: Existing data show that 'quitting for health' is the most commonly cited reason for quitting. What is different about this study is that people were asked to rate the importance of each reason. The results showed that 'setting an example to children' was the most highly ranked. The authors conclude that these findings suggest that quitting for social reasons, instead of just for health, may need to play a more prominent role in cigarette warning labels and public health campaigns. It may also be a good 'reason' to use when giving brief advice to quit, especially when talking to women, Māori and Pacific people who smoke.

Reference: Aust N Z J Public Health. 2011;35(1):81-4.

http://onlinelibrary.wiley.com/doi/10.1111/j.1753-6405.2010.00638.x/abstract

The effect of tobacco outlet density and proximity on smoking cessation

Authors: Reitzel LR et al

Summary: These researchers explored how tobacco outlet density and residential proximity to tobacco outlets impact upon continuous smoking abstinence 6 months after a quit attempt. The study enrolled 414 adult smokers from Houston, Texas (33% non-Latino White, 34% non-Latino Black, and 33% Latino), all of whom consented to biochemical verification of continuous abstinence at weeks 1, 2, 4, and 26. Residential proximity to tobacco outlets proved to be a significant predictor of long-term, continuous abstinence from smoking during a specific quit attempt. Participants residing less than 250 metres (p=0.01) or less than 500 metres (p=0.04) from the closest tobacco outlet were less likely to be abstinent than were those living 250 metres or farther or 500 metres or farther, respectively, from outlets. No such information was provided by tobacco outlet density.

Comment: This study provides some interesting data on the relationship between how close people live to tobacco retail outlets and the long-term success of quit attempts. Self-restraint is a key factor in maintaining behaviour change. In smoking cessation we often give advice such as 'make sure you don't have any cigarettes in your home' as a way of trying to bolster self-restraint. It simply takes more effort to go out and buy more cigarettes if you have an urge to smoke and for some people this is enough to help them remain abstinent. Data from this study suggest that the more effort involved in obtaining cigarettes, in terms of proximity to a tobacco retail outlet, the more likely one is to remain abstinent. This then implies that having fewer places that sell tobacco would be beneficial in helping many people to stop smoking.

Reference: Am J Public Health. 2011;101(2):315-20.

http://ajph.aphapublications.org/cgi/content/abstract/101/2/315

Abstinence and psychological distress in co-morbid smokers using various pharmacotherapies

Authors: Steinberg MB et al

Summary: These researchers compared the effectiveness of varenicline with various tobacco dependence medications on abstinence and outcomes in smokers with concurrent medical and psychiatric illnesses. The study was a retrospective analysis of data from 723 smokers, most with significant medical and psychiatric co morbidity, enrolled at the University of Medicine and Dentistry of New Jersey-Tobacco Dependence Clinic from 2006 to 2008. Cessation medications included combination pharmacotherapy (39% of patients), single nicotine replacement therapy (NRT) or bupropion (29%), and varenicline (23%); 9% used no medications. Overall, 23% of patients were abstinent at 6 months. An adjusted regression analysis revealed that smokers who used varenicline or combination medications were more likely to be abstinent at 6 months than those using no medications (adjusted OR, 2.99) and compared with those using single medications (adjusted OR, 1.70; not significantly different). None of the following demographic characteristics, measures of tobacco dependence and co-morbidities were significantly associated with abstinence: age, gender, education, marital status, cigarettes per day, time to first cigarette, night smoking, and menthol smoking. Over the treatment period, compared to the other treatment options, varenicline and combination pharmacotherapy did not significantly increase serious psychological distress (as assessed by Kessler-6).

Comment: Smoking cessation services, such as the one in this report, typically treat highly dependent smokers, many of whom have significant co-morbidities and mental health illness. Most studies examining the efficacy of smoking cessation medicines, and even some behavioural interventions, exclude people who are physically or mentally unwell. Therefore, the relevance of these data to the 'real world' setting is often questioned. The results from this cohort study reflect the findings of others showing that smokers with mental health illness and other co-morbidities who are provided with a combination of behavioural support and pharmacotherapy can successfully quit.

Moreover, the quit rates seen in this study (23% at 6 months, which translates to around 17% at 1 year) were very good, especially in a group of highly dependent smokers. As a comparison, the 1-year quit rate associated with unassisted quit attempts is around 3%.

There has been recent concern about using varenicline in people with mental health illness with postmarketing reports of severe psychiatric adverse events, including depression and suicidal ideation. Although this study showed no increase in psychological distress in people using varenicline, it should be used with caution in people with mental health illness. People should be followed up regularly to check on progress and monitor for adverse events (this is in fact one of the criterion for being able to receive subsidised varenicline under special authority in New Zealand; *'the patient is part of, or is about to enrol in, a comprehensive support and counselling smoking cessation programme, which includes prescriber or nurse monitoring'.*)

Reference: Drug Alcohol Depend. 2011:114(1):77-81.

http://tinyurl.com/42hrn6b

Does smoking cessation cause depression and anxiety? Findings from the ATTEMPT cohort

Authors: Bolam B et al

Summary: These researchers analysed data from the largest longitudinal study of smoking cessation to date, the ATTEMPT cohort, which was designed to chart the natural history of smoking cessation and associated short-term health outcomes and effects on medical resource utilisation among a cohort recruited from existing Internet panels across multiple countries (Canada, France, the UK and the US). The 9 months of follow-up data from quitters free from symptoms of depression (n=1,027) and anxiety (n=938) at study entry were deemed to be of sufficient duration for ascertaining whether long-term smoking abstinence causes depression and anxiety. The age- and sex-adjusted ORs for incident symptoms of depression or anxiety associated with 6- to 9-month smoking abstinence compared with continued smoking were 1.03 (95% CI 0.41 to 2.56) and 1.05 (95% CI 0.39 to 2.82), respectively.

Comment: People who smoke often worry about increase in stress and anxiety when they quit. Anxiety is often noted as a tobacco withdrawal symptom, although not all research has consistently demonstrated that anxiety increases after quitting, and some studies show that it actually decreases below 'pre-quit' levels. The findings from this study confirm that people, at least those who are not depressed or anxious before quitting, do not experience an increase in these symptoms. When giving advice about stopping smoking, people can be reassured that they are unlikely to become depressed or anxious when they quit and their levels of stress are more likely to decrease the longer they go without a single puff.

Reference: Nicotine Tob Res. 2011;13(3):209-14.

http://ntr.oxfordjournals.org/content/13/3/209.abstract

Adherence to and reasons for premature discontinuation from stop-smoking medications: data from the ITC Four-Country Survey

Authors: Balmford J et al

Summary: Clinical trial evidence attests to the efficacy of nicotine replacement therapies (NRTs) but they may not be as effective when purchased over-the-counter (OTC). Premature discontinuation and insufficient dosing have been offered as possible explanations. This investigation evaluated the prevalence of and reasons for premature discontinuation of stop-smoking medications (including prescription only) and also how these differ by type, duration of use, and source (prescription or OTC). Data were analysed from 1,219 smokers or recent quitters who had used medication in the last year (80.5% NRT, 19.5% prescription only) who had participated in Waves 5 and 6 of the International Tobacco Control Four-Country Survey. Most of the sample (69.1%) discontinued medication use prematurely. NRT users outnumbered users of bupropion and varenicline combined (71.4% vs 59.6%, respectively). OTC NRT users were particularly likely to discontinue (76.3%). Smoking relapse was the most common reason for discontinuation of medication, reported by 41.6% of respondents. They also commonly reported side effects (18.3%) and a belief that the medication was no longer needed (17.1%). Far more treatment completers achieved 6-month continuous abstinence compared with those who discontinued prematurely (37.9% vs 15.6%, respectively). Notably, 65.6% who discontinued because they believed the medication had worked were abstinent.

Comment: As with many pharmacological treatments, adherence is a factor that can limit the effectiveness. Published data show that most people using NRT discontinue use too soon. It is generally recommended that people use these products from some 8–12 weeks. When prescribing, or supplying, NRT it is important to advise people to use it for long enough. Giving advice on possible side effects (e.g. poor taste of nicotine gum) will also help aid adherence.

Reference: Nicotine Tob Res. 2011;13(2):94-102.

http://ntr.oxfordjournals.org/content/13/2/94.abstract

Exploring differences in smokers' perceptions of the effectiveness of cessation media messages

Authors: Davis KC et al

Summary: These researchers used data from the New York Media Tracking Survey Online, a web survey of 7,060 adult smokers in New York, to explore which types of cessation-focused advertisements are associated with perceived advertisement effectiveness among smokers and to assess whether key smoker characteristics (i.e., cigarette consumption, desire to quit and past quit attempts) influence perceived effectiveness of different types of cessation ads. Cessation ads were grouped into four categories: (1) why to quit – graphic images, (2) why to quit – testimonial, (3) how to quit and (4) anti-industry. A four-item scale measured perceived ad effectiveness by assessing the degree to which participants thought the ads made them stop and think, grabbed their attention, were believable and made them want to quit smoking. Ads in the first two categories were perceived as more effective than the other ad categories. Smokers who had less desire to quit or had not tried quitting in the past 12 months responded significantly less favorably to all types of cessation ads tested. Greater cigarette consumption was also associated with lower perceived effectiveness, but to a lesser extent.

Comment: If we are to achieve the 2025 vision of a tobacco-free New Zealand then we need to encourage more people who smoke to try to quit. Mass media campaigns are effective in prompting people to make a quit attempt. Data from this study suggest that the best way to promote smoking cessation is to use 'why quit' messages. Quitting for health is important, but as Thompson et al. showed, other social messages should be considered. Hearing or seeing how others manage to become smoke-free can also motivate smokers to make a quit attempt and is an approach that can be used in clinical practice. Stories are often a good way to communicate your message. For example *"I have a patient very similar to yourself. She managed to quit with the help of our practice nurse, and has not smoked for 7 months now. If you like we can help support you become smoke-free as well"*.

Reference: Tob Control. 2011;20(1):26-33.

http://tobaccocontrol.bmj.com/content/20/1/26.abstract

A randomised controlled trial of proactive telephone counselling on cold-called smokers' cessation rates

Authors: Tzelepis F et al

Summary: This Australian study examined the effects of proactive telephone counselling upon abstinence, quit attempts and cigarette consumption among cold-called smokers. Among 48,014 randomly selected electronic telephone directory numbers, 3,008 eligible smokers were identified and 1,562 of them were recruited into a trial that randomised 769 to proactive telephone counselling and 793 to the control condition (i.e., mailed self-help). Six counselling calls were offered to intervention smokers willing to quit within a month and four to those not ready to quit. Follow-up interviews at 4 months, 7 months and 13 months were completed by 1,369 (87.6%), 1,278 (81.8%) and 1,245 (79.9%) participants, respectively. Proactive telephone counselling participants were significantly more likely than controls to achieve 7-day point prevalence abstinence at 4 months (13.8% vs 9.6%; p=0.005) and 7 months (14.3% vs 11.0%; p=0.02) but not at 13 months (15.2% vs 14.4%; p=0.4). Telephone counselling had a significant impact upon prolonged abstinence at 4 months (3.4% vs 1.8%; p=0.02) and at 7 months (2.2% vs 0.9%; p=0.02). At 4 months post recruitment, telephone counselling participants were significantly more likely than controls to have made a quit attempt (48.6% vs 42.9%; p=0.01) and to have reduced their cigarette consumption (16.9% vs 9.0%; p=0.0002).

Comment: Many of us dislike being cold-called. It's usually someone trying to sell insurance or products that you don't want or just aren't ready to buy. This smoking cessation study cold-called 48,000 people randomly selected from the New South Wales telephone directory. Of those reached, 3008 households had at least one eligible smoker and over half (52%) agreed to take part in the study. This alone is surprising, but possibly reflects smokers 'want' to quit. The authors also comment that perhaps this cold-calling approach could be adopted by Quitlines. The smoking cessation results reflect what we know about the efficacy of pro-active telephone support in helping people quit. The New Zealand Quitline (0800 778 778) offers telephone support and nicotine replacement therapy to those that what to use it. Smokers can also opt to log onto the website (www.quit.org.nz) for web or SMS text-based support.

Reference: Tob Control. 2011;20(1):40-6.

http://tobaccocontrol.bmj.com/content/20/1/40.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.

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Research Review publications are intended for New Zealand health professionals.