



THERAPEUTICS INITIATIVE

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Clinical Pearls from the most popular Cochrane reviews in 2007

Therapeutics Letter #55 (January – March 2005) highlighted 5 systematic reviews published in the Cochrane Database of Systematic Reviews (CDSR) section of “The Cochrane Library.” Since that time, reviews in CDSR have increased from 2,249 to 3,541. CDSR abstracts are free, and available on the web, while full reviews are available in most medical libraries and provided free by many countries (see below). In June 2008, Thompson Scientific calculated and published the CDSR impact factor for the first time. The impact factor measures the frequency with which an “average article” in a journal is cited per year. **The CDSR 2008 Impact Factor is 4.654, ranking number 14 out of a 100 in the Medicine (General and Internal) category.** The median impact factor for journals in this category is 1.33. In addition, John Wiley & Sons (the Cochrane Library publisher) tracks how often Cochrane reviews are accessed, worldwide. In this Letter we summarize the top 5 most accessed Cochrane reviews in 2007.

Interventions for preventing falls in elderly people ¹

This review, the most accessed in both 2006 and 2007, was first published online in October 2003, but has not been updated since that time. There is an expectation that most Cochrane reviews will be updated by the authors every 2 years.

Findings: Sixty two trials involving 21,668 participants were included.

Interventions likely to be beneficial:

- Multidisciplinary, multifactorial, health/environmental risk factor screening/intervention programmes in the community for an unselected population of older people (4 trials, 1651 participants, RR 0.73, 95%CI 0.63 to 0.85, NNT = 11), and for older people with a history of falling or selected because of known risk factors (5 trials, 1176 participants, RR 0.86, 95%CI 0.76 to 0.98, NNT = 17).
- A programme of muscle strengthening and balance retraining, individually prescribed at home by a trained health professional (3 trials, 566 participants, RR 0.80, 95%CI 0.66 to 0.98, NNT = 11).
- **Home hazard assessment and modification that is professionally prescribed for older people with a**



history of falling (3 trials, 374 participants, RR 0.66, 95% CI 0.54 to 0.81, NNT = 5).

Conclusions: Interventions to prevent falls that are likely to be effective are now available; less is known about their effectiveness in preventing fall-related injuries. Some potential interventions are of unknown effectiveness and further research is indicated.

Interventions for treating obesity in children ²

This review was first published online in July 2003 and has not been updated since that time.

Findings: Eighteen randomised controlled trials (RCT) with 975 participants were included. Most of the studies included in this review were too small to have the power to detect the effects of the treatment. A meta-analysis was not conducted since so few of the trials included the same comparisons and outcomes.

Conclusions: There is a limited amount of quality data on the components of programs to treat childhood obesity that favour one program over another. Further research is required that considers psychosocial determinants for behaviour change, strategies to improve clinician-family interaction, and cost-effective programs for primary and community care.

Beta-blockers for hypertension ³

This review was first published online in January 2007.

Findings: Thirteen RCTs (91,561 participants) were included. These RCTs compared beta-blockers to placebo or no treatment, diuretics, calcium-channel blockers, and renin-angiotensin system inhibitors.



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Conclusions: The available evidence does not support the use of beta-blockers as first-line drugs in the treatment of hypertension. This conclusion is based on the relatively weak effect of beta-blockers to reduce stroke and the absence of an effect on coronary heart disease when compared to placebo or no treatment. More importantly, it is based on the trend towards worse outcomes in comparison with calcium-channel blockers, renin-angiotensin system inhibitors, and thiazide diuretics. **Most of the evidence for these conclusions comes from trials where atenolol was the beta-blocker used (75% of beta-blocker participants in this review).**

Low glycaemic index or low glycaemic load diets for overweight and obesity 4

This review was first published online in July 2007. **Background:** Low glycaemic index or low glycaemic load foods are carbohydrate containing foods that lead to a lower rise in serum glucose.

Findings: Six RCTs (202 participants) were included. Interventions ranged from five weeks to six months duration.

Conclusions: Overweight or obese people on low glycaemic diets reduced weight (weighted mean difference [WMD] -1.1 kg, 95% CI -2.0 to -0.2) and cholesterol (WMD -0.22 mmol/L, 95% CI -0.43 to -0.02) as compared to those receiving control diets. Further research with longer duration of follow-up is required to determine whether the improvements can be maintained long term and whether they are associated with health benefits.

RR = Relative risk.

NNT = Number needed to treat.

NNH = Number needed to treat to cause one harmful event.

References

1. Gillespie LD, Gillespie WJ, Robertson MC, et al. *Interventions for preventing falls in elderly people*. Cochrane Database of Systematic Reviews 2003, Issue 4. Art. No.: CD000340. DOI: 10.1002/14651858.CD000340.
2. Summerbell CD, Ashton V, Campbell KJ, et al. *Interventions for treating obesity in children*. Cochrane Database of Systematic Reviews 2003, Issue 3. Art. No.: CD001872. DOI: 10.1002/14651858.CD001872.
3. Wysong CS, Bradley H, Mayosi BM, et al. *Beta-blockers for hypertension*. Cochrane Database of Systematic Reviews 2007, Issue 1. Art. No.: CD002003. DOI: 10.1002/14651858.CD002003.pub2.
4. Thomas DE, Elliott EJ, Baur L. *Low glycaemic index or low glycaemic load diets for overweight and obesity*. Cochrane Database of Systematic Reviews 2007, Issue 3. Art. No.: CD005105. DOI: 10.1002/14651858.CD005105.pub2.
5. Cahill K, Stead LF, Lancaster T. *Nicotine receptor partial agonists for smoking cessation*. Cochrane Database of Systematic Reviews 2008, Issue 3. Art. No.: CD006103. DOI: 10.1002/14651858.CD006103.pub3.

Nicotine receptor partial agonists for smoking cessation 5

This review was first published online in January 2007 and updated (conclusions changed) in July 2008.

Findings: Seven RCTs comparing varenicline to placebo (2,582 participants) were included, and 3 of these also had a bupropion arm (799 participants).

Conclusions:

- Varenicline for 12 weeks increased the chance of successful smoking cessation at 6 months or longer compared to placebo, RR 2.3 (1.9 to 2.8) NNT = 7.
- Varenicline improved smoking cessation at 1 year compared to bupropion, RR 1.5 (1.2 to 1.9) NNT = 14.
- Adverse effects of varenicline include nausea, RR 3.3 (2.7 to 3.9), NNH = 4, insomnia, RR 1.5 (1.2 to 1.8), NNH = 17 and abnormal dreams, RR 2.8 (2.1 to 3.7), NNH = 11.
- Possible links with serious adverse events, including depressed mood, agitation and suicidal thoughts are currently under review.
- There is a need for independent community-based trials of varenicline, to test its efficacy and safety in smokers with varying co-morbidities and risk patterns.
- **There is a need for further trials to test the efficacy of treatment beyond 12 weeks.**

How to access the Cochrane Library

UBC faculty, students and residents can access the Cochrane Library through the UBC Library. Anyone else in BC who has access to the Internet can access the abstracts at www.thecochranelibrary.com free of charge. The full text of individual Cochrane reviews can be purchased on line (approximately \$32/review) or as part of a subscription to The Cochrane Library (approx. \$300/year). Go to www.thecochranelibrary.com for more information.

Residents of Australia, England, Finland, India, Ireland, New Zealand, Norway, Poland, Scotland, South Africa, Sweden, Wales, all the countries in Latin America and the Caribbean, all low-income countries throughout the world, the US state of Wyoming, the Canadian provinces of New Brunswick, Nova Scotia, Saskatchewan and the Canadian Territories (Nunavut, Northwest and Yukon) have free access to The Cochrane Library provided by their governments. Efforts are currently under way to gain free access to The Cochrane Library for all residents of Canada. If you feel that all Canadian residents should have free access to The Cochrane Library you may wish to sign the on-line petition at <http://nlcl.epetitions.net/>

The draft of this Therapeutics Letter was submitted for review to 50 experts and primary care physicians in order to correct any inaccuracies and to ensure that the information is concise and relevant to clinicians.